TECHNOLOGY DEPT.

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DETROIT

It's Important to Know In Time'
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The Newspaper of the Industry

Air Conditioning & REFRIGERATION NEWS

Production Tools for Victory
AN INTERNATIONAL INSTITUTION ★ SUBSCRIBERS ALL OVER THE WORLD ★
Technical Governmental

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Inside Dope

[By George F. Taubeneck

Let's Look Abroad
U. S. Merchant Fleet Of Huge Proportions
Foreign Debts a Key To Postwar Exports
World Trade Has a New Significance
Foreign Surpluses
Three-Pronged Dilemma

Let's Look Abroad

A billion new customers! What a prospect! What a challenge! Nobody can dispute that round and tremendous figure. Fact of the matter is that the prospect list is probably far larger when we consider all the world as a market.

As an entering wedge into this inviting market, we have the spectacle of American G.I.'s engaging in an unconsciously terrific sampling campaign for made-in-America products. They've taken our superior equipment, our unparalleled living standards, with them wherever they have gone. And they have gone learned near everywhere!

If, after peace, an American manufacturer of baby-bottle-warmers or pipe reamers or portable air conditioners happens to receive unexpected inquiries from Timbuctoo, Iran, or Shwaniphur, he can thank the ubiquitous G. I. for doing the pioneering.

Our boys in service are notorious for their disregard for the medieval adage: "When in Rome, do as Romans do." They believe in carrying wonderful America with them. And so do our armed service bigwigs.

Result is that all over the world desire and demand have been created for American products which normally might have stood a scant chance of consideration in the import lists drawn up by the all-powerful governments involved. Exceptionally high on these lists of "approved wants" are many types of refrigeration and air conditioning equipment.

U. S. Merchant Fleet Of Huge Proportions

To supply these needs America has in its possession an unprecedentedly large merchant shipping fleet (plus a protective Navy so immense and powerful that all the navies of the world wouldn't dare challenge one of our major task forces in a knock-down-and-drag-out-battle), in addition to airplanes enough to handle all the world's potential air cargo without drawing upon "strategic reserves" of at least treble the quantity of the planes which could conceivably be put into use.

Because we are the world's major industrial nation, and because our productive facilities have not been damaged by war, we'll have very little competition at the outset for the satisfaction of the world's needs.

Except . . . for one little fly in the ointment. The rest of the world will be too broke, as usual, to pay for what they get from us. Since 1912 America has not only *given away* its exports, but paid a premium as well to the recipients.

Foreign Debts a Key To Postwar Exports

If you add the value of all our exports since that time, and compare the total with the outstanding foreign debts, the outright repudiations, our purchases of foreign-produced gold, plus Lend-Lease, you'll arrive at a result which shows us creating abroad far more than we have ever received.

There are two schools of thought concerning what might appear to be an obvious situation: one holds that we might better give away all the margin of payment to our own

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Jobbers Adhere To Old Qualifications For Membership

CHICAGO — There will be no change now in the qualifications for membership in the National Refrigeration Supply Jobbers Association, it was determined at a meeting of the Association held Nov. 20-22 at Edgewater Beach hotel here.

The by-laws of the association now specifically prohibit a member from maintaining a refrigeration service department. Adherence to this provision might keep member jobbers from being franchised with a line of household mechanical refrigerators and possibly some "packaged" commercial refrigeration equipment, on which the jobber would have to take the responsibility for service.

Members voted to accept a report by a Special Committee to Study Trends in the Refrigeration Industry, which was said to have stated that while there were some who felt the jobber's future is in the handling of "complete equipment," the majority seemed to feel that there would be more for those who wished to wholesale parts and supplies in acordance with the standards established for membership in the association.

Harold R. McCombs of McCombs Refrigeration Supply Co., Denver, was elected president of the N.R.S.J.A. Other officers elected were Theodore I. Glou, Central Service Supply Co., Syracuse, N. Y., vice president; and Otto A. Friemel, Brass & Copper Sales Co., St. Louis, secretary-treasurer.

New directors elected included Messrs. McCombs, (re-elected), Glou, and Friemel, and Irving Fajans, Aetna Supply Co., New York City; E. C. Marsden, Marsden & Wasserman, Hartford, Conn.; and Alex H. Holcombe, Jr., Victor Sales & Supply Co., Philadelphia (re-elected).

The N.R.S.J.A. members had a very worthwhile session Nov. 22 in

(Concluded on Page 14, Column 1)

ASRE To Induct New Officers At Meeting

NEW YORK CITY—Results of the current balloting by mail for next year's officers of the American Society of Refrigerating Engineers will be announced at the close of the society's fortieth annual meeting, to be held in Hotel Pennsylvania here Dec. 10 through 13.

Nominees include (for president) J. F. Stone, manager of the refrigeration division of Johns-Manville Corp.; (vice presidents) Charles S. Leopold, consulting engineer of Philadelphia; and Roland H. Money, chief refrigeration engineer of the Crosley Corp.; (treasurer) John G. Bergdoll, Jr., chief engineer of York Corp.

Running for three-year directorships are B. H. Jennings, professor of mechanical engineering at North-

(Concluded on Page 4, Column 5)

Paul Jones Heads OPA Household Committee

WASHINGTON, D. C.—W. Paul Jones, vice president in charge of the Refrigerator Division of Philco Corp., has been elected chairman of the OPA domestic mechanical refrigerator industry advisory committee.

Mr. Jones joined Philco in 1938 to head the company's refrigerator division. He had previously been a distributor with Frigidiaire, advertising and sales promotion manager for Servel, Inc., and executive vice-president of the Home Appliance Division of Fairbanks Morse & Co.

Rema Plans To Broaden Certain Of Its Activities

HOT SPRINGS, Va.—Refrigeration Equipment Manufacturers Association, at its recent meeting here, revealed plans to broaden the scope of its services and functions, in some instances for the Rema membership alone, in others for the benefit of the refrigeration and air conditioning industry generally.

Most spectacular of the proposed broadened activities th t Rema is contemplating is the 'public relations" program. After listening to a presentation on the subject by Ted Sills of Sills, Inc., public relations firm, those present at the meeting, when asked for a show of hands, revealed a majority in favor of the idea.

It seems likely that some sort of a project may be put into effect next year, although most of the plans have yet to be made.

Main objectives of the public relation would be two-fold:

1. To educate the public and government on the importance of refrigeration in the many phases of our everyday life and work.

2. By means of publicity in newspapers, magazines, and radio, to promote new markets for refrigeration equipment and to help the industry compete successfully with other industries for a fair share of the consumer's dollar.

In the freely argued debate over the idea, the chief objection raised was that a great many members of Rema made only relatively small and more or less "hidden" components of complete refrigeration systems, and that consequently there would be little direct benefit accruing to them out of such a plan.

There was some discussion of bringing other industry groups into such a program, but it is probable

(Concluded on Page 10, Column 3)

Bendix (Washer) Sues Bendix (Aviation) Over Radio Name

SOUTH BEND, Ind.—A suit seeking to restrain Bendix Aviation Corp. from using the name "Bendix" in connection with the sale of home radio receivers has been filed in New York Supreme Court by Bendix Home Appliances, Inc., announces J. S. Sayre, president of the automatic washing machine company.

Bendix Aviation is proposing to market its new product as "Bendix Home Radios," alleges the complaint filed by the washing machine company, which is also seeking damages and an accounting of profits, Mr. Sayre says. The complaint also requests the court to decide that Bendix Home Appliances, Inc., has the right to use freely the name "Bendix" in connection with the sale of home appliances it makes.

The complaint also alleges that Bendix Home Appliances, Inc., which is the manufacturer of the automatic washing machine known as the "Bendix Home Laundry," has created and owns valuable goodwill in the trade name "Bendix" for home appliances; that the use of that name by Bendix Aviation Corp. for the "Bendix Home Radio" is deceptive and confusing to the trade and the public, and constitutes an attempt by the aviation company to trade upon the reputation and goodwill of the home appliance company.

Because Bendix Aviation was instrumental in the organization and early operation of the business of Bendix Home Appliances, it therefore consented to the latter's use and ownership of the name "Bendix" in

(Concluded on Page 29, Column 3)

John Wyllie Dead; Led Effort To Get Industry Together

DETROIT—John Wyllie, Jr., vice president and general manager of Temprite Products Corp., past president of Refrigeration Equipment Manufacturers Association, and the first Chairman of the National War Council, died Sunday, Nov. 26 at his home here. He was 42 years old.

Death took Mr. Wyllie with great suddenness. A member of the U. S. Coast Guard Reserve (temporary), he had been on a tour of duty on the waters around Detroit on the day before his death. When he arose the next day he complained of not feeling too well. He died before a doctor could arrive, coronary thrombosis being named as the cause of death.

Mr. Wyllie was buried Nov. 29 in a flag-draped coffin, with an honor guard of his fellow members of the Coast Guard Reserve in attendance. His wife, Margaret Barr Wyllie, and two daughters, Margaret Jean and Winifred Ann, survive him.

There were few others who had given so freely and so ably of their time to matters that were for the general good of the refrigeration industry as had John Wyllie. Even before the war he had served in many ways—on industry standards committees, in positions of importance in the American Society of

(Concluded on Page 32, Column 1)

Kelvinator Indicates Modest Freezer Price

DETROIT — Price of the home freezers with which Kelvinator will enter the market when production is possible will be "something less than that of the average good refrigerator," Charles T. Lawson, vice president of Nash-Kelvinator Corp. in charge of Kelvinator sales, said last week.

While the price range of the new Kelvinator home freezers has, of course, not been set, Mr. Lawson said that the company's current retail price estimates were the result of extensive studies based on Kelvinator's long experience in the ice cream cabinet field.

The home freezers to be offered by the company will be powered by the Polarsphere sealed units used in Kelvinator refrigerators, ice cream freezers, and other refrigeration products of the company, Mr. Lawson said. The freezers will be completely Kelvinator-built, he added.

"We expect our retailers to find a very excellent market for the home freezer, but how great its extent will be depends largely on the postwar development of the frosted foods industry," Mr. Lawson stated. "It ap-

(Concluded on Page 29, Column 4)

Rees To Manage Hotpoint Range & Heater Sales

CHICAGO—Gregory L. Rees has been appointed range and water heater sales division manager, Edison General Electric Appliance Co., reports Ward R. Schafer, general sales manager.

Mr. Rees has been with the company since 1935 as development engineer and special sales representative on ranges and water heaters. During the war period he had charge of the demonstration and sale of company developed war devices.

In other personnel changes announced recently H. J. Scaife was named manager of the Western sales region, with headquarters in San Francisco. He leaves the post of kitchen sales manager, and is succeeded by John Fellmann. Floyd Slasor was named manager of the refrigeration sales division. Mr. Fellmann and Mr. Slasor will remain at Chicago headquarters.

Household Units Made on 'Spot' Okay Go In Pool

WPB Sees Little Chance for Much Production; Future Prospects Outlined

WASHINGTON, D. C.—Any household mechanical refrigerators that may be made as a result of "spot authorizations" in accordance with the provisions of Priorities Regulation 25 as amended Nov. 21, 1944, will be added to the "frozen stockpile" of refrigerators, WPB representatives told the Mechanical Household Refrigerator Industry Advisory Committee at its recent meeting.

The original stockpile of 700,000 refrigerators, established in February, 1942, has dwindled to 48,000, WPB officials said. Withdrawals from the frozen stockpile are permitted by WPB only for the most highly essential uses, as for food preservation purposes at Army and Navy camps, posts, and ships' service stores, for the storage of vaccines, serums, biologicals, and blood plasma, and similar purposes.

Augmentation of the present small stockpile with refrigerators made under the "spot authorization" procedure would insure that these essential requirements will continue to be met, WPB representatives said.

Unless war contracts are cut back, and labor becomes available, production of refrigerators under PR 25 will be extremely limited, committee members said. They added that the difficulty of obtaining components and materials with the AA-5 priority rating and the deferred allotments available under PR-25 will further impede production.

The committee recommended unanimously that mechanical refrigerator manufacturers be permitted to order on an AA-3 priority rating a 90-day supply of materials and components, to be stocked for use whenever labor and facilities are available in sufficient supply to permit reconversion. This would facilitate speedy reconversion and enable manufacturers to maintain employment when war production decreases, without

(Concluded on Page 29, Column 1)

Washer Makers Seek To Stock Components

WASHINGTON, D. C. — Members of the Domestic Laundry Equipment Industry Advisory Committee, together with the other members of the industry and component manufacturers, at their recent conference in Washington urged WPB to permit laundry equipment manufacturers to order and stock materials and components in preparation for reconversion, WPB reported recently. This would be contingent upon non-interference with war production, they said.

Industry members recommended unanimously that laundry equipment manufacturers be permitted to order materials and components, on an AA-3 priority rating, and build up a 90-day inventory.

They further recommended that individual manufacturers, including component manufacturers, be allowed to draw upon their inventories to make parts or complete laundry equipment to the extent that labor becomes available in their plants, subject to over-all manpower controls.

Manufacturers estimated that such a procedure would shorten reconversion after "Victory in Europe" Day by three months or more and thus

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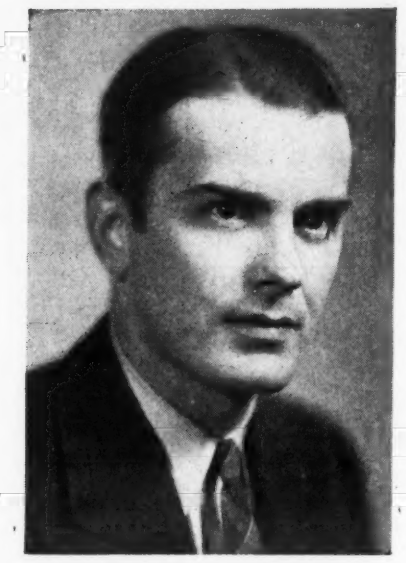
Heads Kerotest Sales



GEORGE R. ALLEN
General sales manager of the brass division of Kerotest Mfg. Co.

New Schoelkopf Co.

DALLAS, Tex.—The Schoellkopf Co., Ltd., for many years a major appliance distributor here, will establish a new company to be known as the Schoelkopf Appliance Co., to distribute in northern Texas and northern Louisiana such lines as Coolerator mechanical and ice refrigerators, Estate ranges, Thor washers, and Domestic and White sewing machines.

The new company will be in operation about Jan. 1, according to C. T. Ellis, general sales manager of the firm.

'Baby Flatops' Carry Big Cooling Systems

VANCOUVER, Wash. — The 50 "baby" flatops built by the Kaiser shipyards here to destroy submarines in the Atlantic and harrass the Japs in the Pacific are each equipped with two Frick refrigerating machines for food storage and ice making.

Known as the Casablanca Class Escort Carriers, these comparatively small aircraft carriers are designed chiefly for convoy duty, but have served also as combatant ships in the Pacific area.

Refrigeration compressors installed in these ships are connected to fan-type cooling units and wall coils, and to special marine type condensers, reports the Frick Co. The controls are assembled in a prefabricated cabinet and include sufficient thermostats, thermal expansion valves, solenoid valves, suction pressure regulators, thermometers, etc., to make operation automatic.

Refrigerated compartments in the ships hold meat, dairy products, vegetables, fruit, and ice, and are equipped with anterooms. Ice is produced in ten 25-lb. cans.

Hartigan Now a Major

HEADQUARTERS, PANAMA CANAL DEPARTMENT, U. S. ARMY—William F. Hartigan, formerly comptroller of the St. Paul branch of the Frigidaire Corp., was promoted to the rank of major in orders issued this week. He is assistant Department Exchange Officer.

In G-E Bloomfield Post

GEORGE E. SIMONS
Manager of advertising and sales promotion for General Electric's air conditioning and commercial refrigeration divisions with headquarters at Bloomfield, N. J.

Wesco Names Lammers Indiana Division Head

INDIANAPOLIS, Ind. — Appointment of Charles G. Lammers as manager of the Indiana division, with offices in Indianapolis, was announced recently by Henry Czech, northwestern district manager of the Westinghouse Electric Supply Co. Mr. Lammers was formerly with Westinghouse Electric & Mfg. Co.

Refrigeration on Maritime Service Ships 'Takes' All Kinds of Unusual Punishment

Industry Veteran Who Served on Ships Tells of Tropical Conditions; Condemns Sloppy Installations

SEATTLE, Wash.—How refrigeration equipment has to take it when operating at sea under extreme tropical conditions is related by Lt. (j. g.) Robert Myre of the Maritime Commission who is now officer in charge of refrigeration aboard the *S. S. Imperial.* Before joining the Maritime service Lt. Myre served eight years with Automatic Refrigeration Co. of this city, of which James H. Lessard is owner and manager.

While Lt. Myre is serving abroad the *Imperial* at the present time, much of his experience with marine refrigeration was gained aboard the hospital ship, *Marigold.* It was on this boat that Lt. Myre learned of the many difficulties which beset the refrigeration engineer aboard ship because of adverse climatic conditions.

PROBLEMS IN TROPICS

One of the first things encountered under tropical conditions is high condensing water temperatures, Lt. Myre found. He relates how when condensing water inlet temperatures rose to 90° F. or higher, speed of a steam driven compressor rated for 500 r.p.m. had to be increased to 575 r.p.m. to maintain design conditions within the box.

Lt. Myre points out that when the box contains medical materials, such as serums, vaccines, blood plasma, and other similar articles, the refrigeration engineer has no choice but to run the machines at increased speed, as box temperatures must be maintained at all costs.

Operation of the machines at sea is often complicated by the fact that they must run in an ambient temperature of 115° F. or higher, which also tends to reduce the over-all capacity of the machine and place an additional burden on its performance.

For these reasons Lt. Myre believes that the U. S. Navy policy of providing 100% excess capacity for most floating installations is very wise indeed. This is not always done on merchant ships, Mr. Myre has found, which means that when the pinch comes there may not be enough capacity available to maintain temperatures.

Another thing which plagues the refrigeration man at sea is sloppy original installations.

"When refrigerating machines are not set in perfect alignment, they may cause us no end of trouble," Lt. Myre says, "and it is not always easy to change the alignment of heavy machines while the boat is at sea."

Lt. Myre states that under extreme tropical conditions difficulties with service valves, suction valves, and seals are multiplied to a great extent. He believes this is due to the fact that these products are seldom tested under tropical conditions before being placed in service aboard ship.

In one instance it was found that a service valve casting was porous, causing the system to lose gas rapidly. To correct this condition it was necessary to tin the valve with silver solder right on the boat, the lieutenant relates.

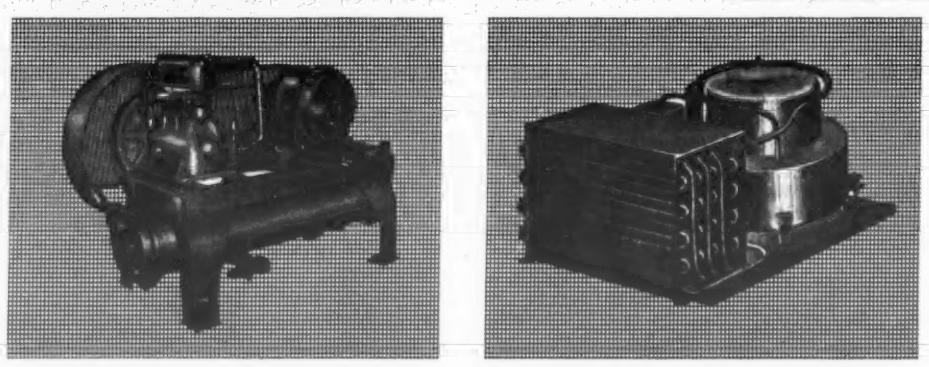
OTHER ACTIVITIES

Telling of his many experiences aboard the *Marigold,* Lt. Myre reports that many refrigeration men do a multitude of things besides repair and maintain equipment in their charge. During the invasion of the south of France, Lt. Myre and his men helped to load wounded from LSTs as they were received aboard the *Marigold.* This was hazardous work, he reports, as the waves were very high, so that one minute the gang plank would be slanting sharply one way and the next minute would be on an equally sharp angle the other way. Everyone on the ship turned out to help until the wounded men were all loaded, Lt. Myre reports.

When the war is over Lt. Myre plans to return to his old job with the Automatic Refrigeration Co. of Seattle. Until that time he plans to "keep 'em running" for the merchant marine.

STAR PERFORMANCE GUARANTEED
...WITH *All-Purpose Engineering*

Whatever the job—transporting troops, towing 90mm anti-aircraft guns, or hoisting heavy equipment—the Army's 2½ Ton "Prime Mover" is there with top performance—BECAUSE it's All-Purpose Engineered.



Universal Cooler's new postwar Refrigerating Units, too, are *All-Purpose Engineered.* Precision-built, with new standards of economical efficiency.

For advance design and All-Purpose Engineered refrigerating systems, manufacturers everywhere say... "Let's ~~Ask~~ Buy Universal Cooler"

COMPLETE LINE OF HERMETIC, SELF-CONTAINED OPEN TYPE AND REMOTE TYPE REFRIGERATING UNITS—⅛ TO 20 HP.

IT'S THE EXTRA BONDS YOU BUY THAT COUNT MOST

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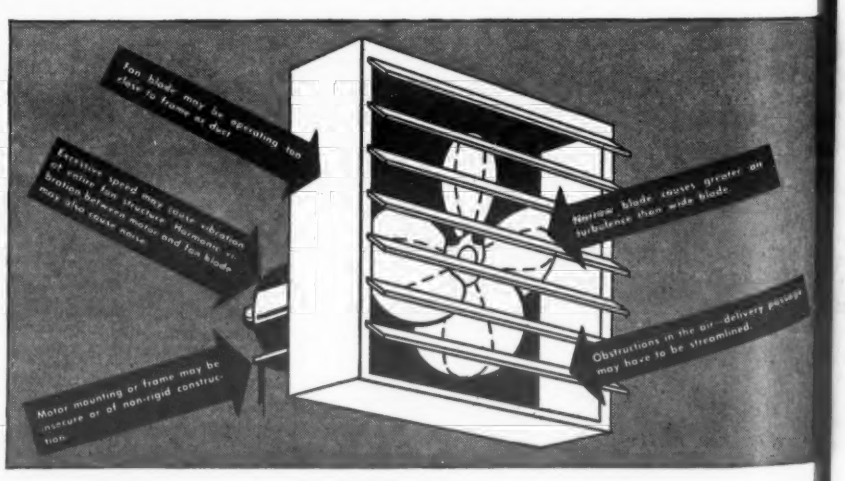
Tips for Designing Air Impelling Units

No. 12 of a series


Fan blade may be operating too close to frame or duct
Excessive speed may cause vibration at entire fan structure. Harmonic vibration between motor and fan blade may also cause noise.
Narrow blade causes greater air turbulence than wide blade.
Motor mounting or frame may be insecure or of non-rigid construction.
Obstructions in the air-delivery passage may have to be streamlined.

Sound in Propeller Fans Causes and Remedies

Subjectively sound is the sensation produced through the ear and objectively it is the vibratory motion which produces the sensation.

Sound, whether musical or noisy, is undesirable in propeller fans, particularly for domestic applications. It cannot be avoided but can be lessened.

The following are some of the causes of sound in Propeller Fans and means for correction:

1. Operating at high speed, the amplitude of vibration and degree of air turbulence is greater in a narrow than in a wide blade. A wide blade may be designed to give gradual acceleration to the air, thus reducing blade vibration, air turbulence, and the resulting noise.
2. Vibrations in a fan blade may be set up by sympathetic response to vibrations of the motor which drives it. This can be remedied by changing the natural period of the blade or the motor. The vibrating period of the blade may be changed by altering its weight or rigidity, or by inserting insulating material between fan and motor.
3. Vibrations may be set up by fan blades operating too close to an obstruction such as a radiator core or a motor support. The obvious remedy is to increase the distance between the blade and the obstruction.

By consulting us in the early stages of design of a unit using an air impeller you may save costly design changes and consequent delays. There is no obligation.

THE TORRINGTON MANUFACTURING CO. TORRINGTON, CONN.

Manufacturers of AIRistocrat Quiet Propeller Fan Blades & AIRotor Blower Wheels

Frigidaire announces great new helps for Frigidaire Servicing Dealers . . . and their Servicemen!

FOR FRIGIDAIRE DEALERS:

A Brand-new Operating Guide covering all phases of Service Department Management is now available to Frigidaire Dealers. Produced by a special staff of Service experts after months of research and field checks, this Guide is a complete digest of proved operating practices.

This Operating Guide is the combined result of 25 years' experience by Frigidaire and thousands of successful Frigidaire Servicing Dealers. It gives authoritative answers to such important questions as:

- What shop equipment does a Servicing Dealer need?
- How do you determine the number of Servicemen required?
- How can accessory sales be stimulated?
- How can Service records be used to bring extra profits?
- How can Servicemen be scientifically rated, and compared, as to their efficiency?
- What 21 things can Servicemen do to build goodwill?
- How should Service charges be established?
- What are the accepted methods of paying Servicemen?

Important questions? Yes! And they're only a few of *hundreds* that are answered in this easy-to-use Operating Guide for Servicing Dealers ...a Guide which stands alone in the industry for the help it gives Frigidaire Dealers in stepping up profits and building goodwill through better Service operations!

Another Field-tested Preventive Service Program giving Frigidaire Servicing Dealers the answer to that old problem: How to "spread the work" so a Service organization can be kept intact and busy the whole year 'round. Frigidaire's new Fall and Winter Program includes a proved plan for utilizing the "off-season" to provide needed service for essential refrigeration equipment and help relieve hot weather "peaks"... contains valuable suggestions for improving Service operations through all the Serviceman-training aids available to Frigidaire Dealers.

FOR FRIGIDAIRE SERVICEMEN:

Advanced Service Training for all the hundreds of Servicemen who have supplemented Frigidaire's Primary Service Training Course with on-the-job experience. Five days of intensive instruction in all phases of Service work. Courses in every one of Frigidaire's 45 districts, conducted by a staff of skilled instructors using methods developed by Frigidaire experts in Service and Service-training.

Unique "Viso-Trainer!" Based on a device used for years in Frigidaire factory Service-training, VISO-TRAINERS are on the job this winter in all Frigidaire districts, helping Servicemen enrolled in advanced training courses. As Service-trainees adjust the switches, set the controls, and read the gauges on this unusual mechanism, they actually see what happens inside its transparent glass cooling unit. "Seeing is believing"—and "seeing is understanding," too: with the VISO-TRAINER, Service-trainees learn the technical aspects of refrigeration quickly, accurately, and thoroughly.

This Card is a Diploma, too: It assures customers that the Serviceman who carries it has finished Frigidaire's Advanced Training Course. Slips into pocket or billfold, bears the Serviceman's picture—gives him added satisfaction in completion of training course.

Training for Beginners; for Post-Graduates. Frigidaire's remarkable Primary Training Course, available for instruction of inexperienced Servicemen. Correspondence "post-graduate" courses for Frigidaire Servicemen who want to add a final polish to their knowledge and skill.

Many other Training Helps. 9 tested Training Films. 3 handy Reference Guides: pocket-size, illustrated, deal with most-common Service problems. Service Manuals covering all Frigidaire products. Goodwill builders for Servicemen: Goodwill Talking Film, Service Call Clerk Manual.

Help and guidance for Frigidaire Dealers in every phase of their Service operations...effective training for their Servicemen—these are just two of the important ways Frigidaire is helping Dealers build for—*A bigger and brighter future with Frigidaire!*

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HOME FREEZERS · ICE CREAM CABINETS
COMMERCIAL REFRIGERATION · AIR CONDITIONERS
BEVERAGE, MILK, AND WATER COOLERS

Washer Makers Seek To Stock Up Parts; WPB Outlines Situation on Materials

(Concluded from Page 1, Column 5)

help to close the gap between employment for war production and employment for civilian production. Unless materials and components for civilian production are on hand when war orders are cut back, the manufacturers emphasized, workers cannot be kept employed.

Most manufacturers in the industry have facilities, not needed for war production, that could be used to make washing machine parts if labor and materials were available, industry members said.

WPB officials said that the possible inauguration of the plan recommended by the industry involves a difficult problem of timing in relation to war production, which is now in a crucial stage. They emphasized the necessity of supplying sufficient materials, labor, and facilities for 12 critical war items, including tires, cotton duck, heavy ammunition and artillery, communications wire, and dry cell batteries.

Expectations of a 75% increase in the supply of fractional horsepower motors in the latter part of 1945 were outlined by WPB representatives. The facilities of alternating current motor manufacturers in loose labor areas are now being expanded to the extent of $5,000,000. The expansion program is expected to be completed by the end of the first quarter of 1945.

Military orders for combat motors are being placed, insofar as possible, in plants without facilities for A.C. motor production, to enable motor plants with such facilities to concentrate on A.C. motor manufacture, WPB representatives said.

A brief resume of the materials supply situation as it affects domestic laundry equipment manufacturers was given by WPB representatives:

Steel mills have some open capacity for 16, 18, and 20-gauge cold rolled sheet for the end of the first quarter and more for the second quarter of 1945. The vitreous enameled sheet situation is more difficult.

The supply of stainless steel is limited by the manpower shortage. Nickel stainless steel is expected to remain critical even after the defeat of Germany, but straight chrome stainless steel may then be more readily available.

Though the over-all copper supply-demand situation has improved, wire mill products, particularly types needed for the military communications wire program, are critical.

Backlogs of orders for malleable iron castings range from five months upward. The gray iron casting situation is also difficult.

Demand for nickel will remain in close balance with supply throughout 1944. Additional nickel for civilian production may be available, for essential functional parts only after "V-E" Day. Nickel anodes and chemicals for plating are critical, and no relief for civilian production after "V-E" Day is expected.

Cork gasket production is being impeded by the manpower shortage, but alleviation after "V-E" Day is expected.

The zinc supply is adequate for military and essential civilian requirements, but the manpower shortage may limit domestic mine and smelter output in the near future.

A limited quantity of reclaimed rubber, which is allocated under the rubber order (R-1), is available for wringers and hose.

Tin will remain critical until the tin mines of the Malay Peninsula are again available to the Allies.

WPB representatives estimated that "V-E" Day cutbacks in military orders in the domestic laundry equipment industry would make available sufficient labor and facilities to permit production in the year following "V-E" Day at the 1939 level of 1,500,000 washing machines. This estimate is based on the assumption that the reconversion period will be of short duration, about two months. Manufacturers estimated demand at 2,500,000 washing machines per year for five years after the war.

Few applications for an AA-1 priority rating on critical materials for washing machine repair parts have been received by the Consumers Durable Goods Division, WPB, in the current quarter from manufacturers, WPB representatives said. In their opinion, this indicates that manufacturers are able to obtain most of the materials they need to make repair parts without a high priority rating. They added that this rating therefore may be discontinued in the first quarter of 1945. Industry members requested that the division remain prepared to issue an AA-1 rating in case of emergency. They emphasized that this rating is essential for certain items, such as washing machine agitators.

Promoted by Hotpoint

GREGORY L. REES
Has been named sales manager of Hotpoint's electric range and water heater division.

A.S.R.E. Announces Slate of Officers

(Concluded from Page 1, Column 2)

western University; Charles S. Neeson, chief engineer of the cooling division, Airtemp Division, Chrysler Corp.; John S. Forbes, president, Superior Valve & Fittings Co.; Warren W. Farr, president and treasurer, Refrigeration Maintenance Corp.; and C. Hill Garrison of the C. H. Garrison Co.

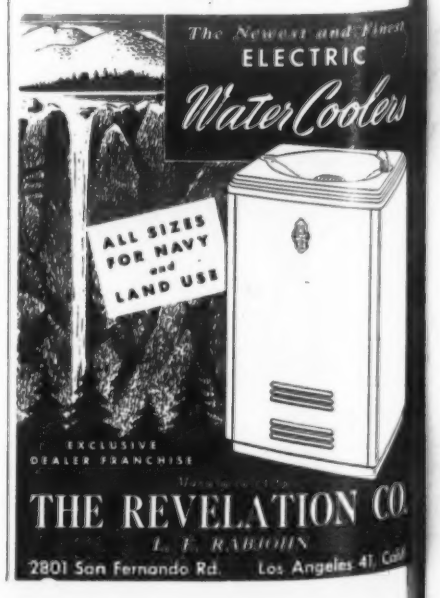
This A.S.R.E. meeting is expected to be one of the largest in the society's history, due to the interest in the anniversary celebration and the fact that membership has increased 40% in the past year.

Four technical sessions, and numerous committee meetings and entertainment features mark the program. Committees and directors have scheduled meetings for Sunday, Dec. 10. The first technical session is planned for Monday afternoon, Dec. 11. Technical sessions will also be held Tuesday morning and afternoon, and Wednesday morning.

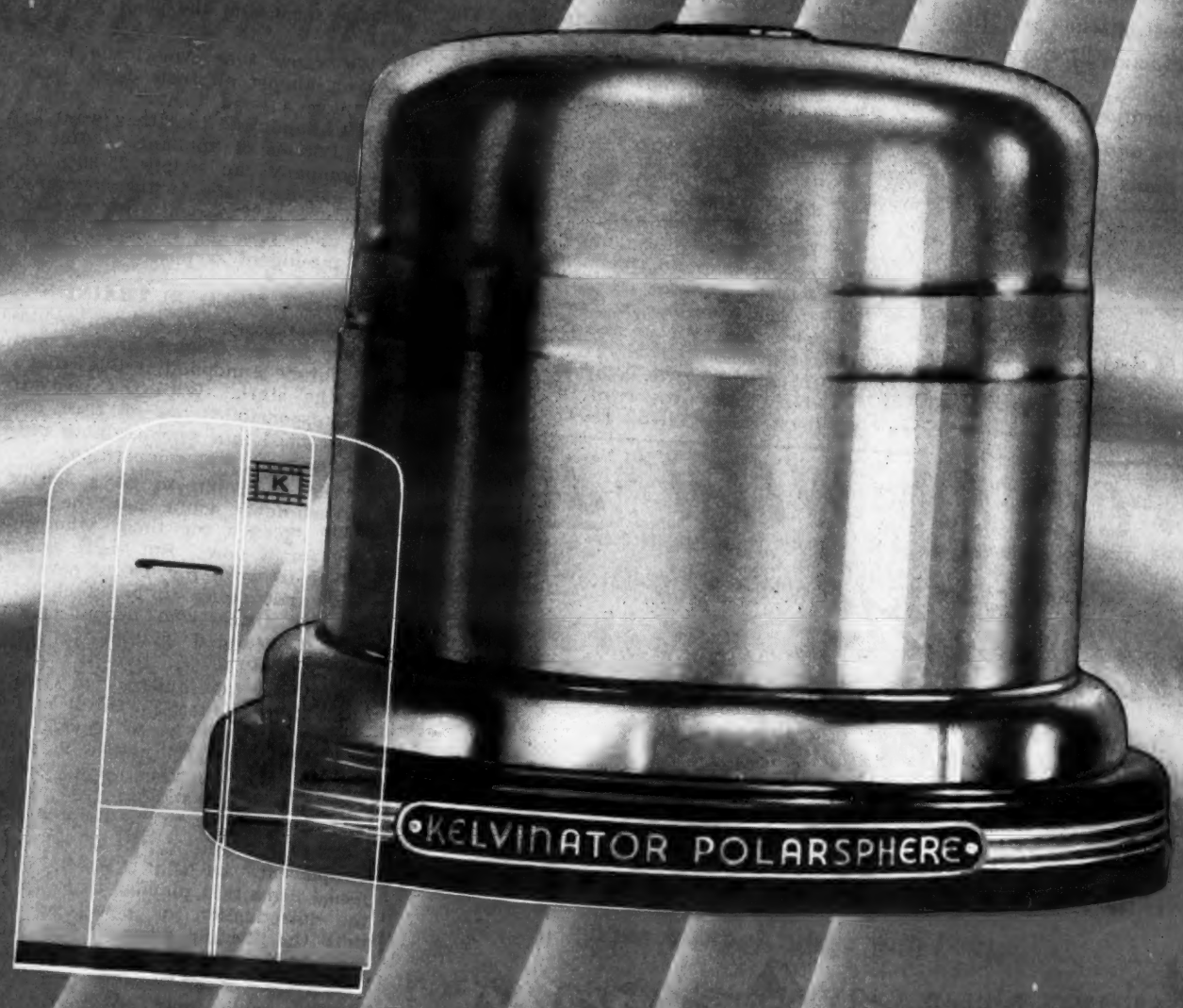
Entertainment planned by the New York Section, serving as host for the meeting, includes an informal Old Timers' Party on Monday evening, Dec. 11, the annual dinner-dance Tuesday, Dec. 12.

Wide variety of subjects will be covered in the 12 papers to be presented during the technical sessions.

Everywhere, Women are Buying the BENDIX in Advance!
You Are Cordially Invited To Visit Us— Booths 38, 39, 40, 41 and 42. HOUSEWARES SHOW. PALMER HOUSE. January 7 to 12. Factory Executives and All District Sales Managers Will Be In Attendance.
It's the greatest advance selling spree in washer history! In Bendix dealers' offices from coast to coast, women are coming in to register for the one-and-only Bendix Automatic Home Laundry! 300,000 women already own pre-war Bendix machines. Millions more want 'em—for millions know that the Bendix is literally "out of this world" when it comes to automatic luxury! That's sales dynamite. And it means that as rapidly as new Bendix Automatic Home Laundries are released, these lucky Bendix dealers deliver and "collect." No wonder they're happy that women everywhere are singing "All I Want Is a Bendix!"
NATIONAL ADS? Of Course! In Life, McCall's, Parents', True Story, Better Homes and Gardens, American Weekly, Good Housekeeping, and Sunday newspaper supplements.
NATIONAL RADIO? Of Course! Bendix spot radio announcements—unique, dramatic, set to an ear-catching Bendix theme song—blanket the nation!
ELECTRIC SIGNS? Of Course! Outdoor, Counter, Aisle and Window Signs in brilliant neon and fluorescent lighting. Distinctive Bendix identification.
MOVIES? Of Course! Specially-prepared Bendix minute-movies are being screened for later release to local motion picture houses! Real sales-makers!
STORE DISPLAYS? Of Course! Window, floor and counter displays! Store signs, truck signs, point of sale materials of all description—by Bendix!
DEALER MATERIALS? Of Course! Newspaper ad mats, letterheads, publicity stories, stuffers, folders, book matches, decals—every possible dealer need!
BENDIX automatic Home Laundry
Bendix Home Appliances, Inc., South Bend, Indiana. Pioneers and Perfectors of the Automatic "Washer"



THE RECORD IS TROUBLE-FREE!



Three years of war have shown what a priceless asset Kelvinator's record of trouble-free performance has been to both Kelvinator retailers and Kelvinator owners.

When freedom from trouble and service was needed most by retailers beset with manpower and material shortages, Kelvinator set a record that has been the envy of the industry.

The reason for this great record is the Polarsphere—Kelvinator's famous cold-making mechanism that is sealed in steel and permanently oiled for years of dependable, trouble-free operation without any attention whatever.

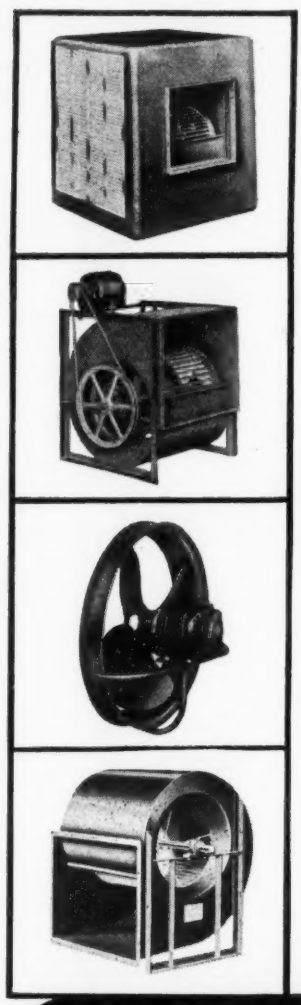
With this great performance record behind it, Kelvinator is looking ahead with the greatest of confidence to the postwar years—a period when dependability of operation will undoubtedly be a most important sales feature in home refrigeration products.

The Kelvinator Polarsphere . . . powering the Kelvinator Refrigerator and the new Kelvinator Home Freezer . . . will be one of the greatest assets in the most valuable postwar franchise in the appliance industry.

LOOK AHEAD WITH KELVINATOR

DIVISION OF NASH-KELVINATOR CORPORATION

Kenosha · Milwaukee · DETROIT · Grand Rapids · Lansing



UTILITY FAN CORPORATION

Peace-time manufacturer of the famous Utility Air Koolers, Blowers, Fans, Floor Furnaces, Circulating Heaters, Unit Heaters, and Forced Air Furnaces.

Available Now!

Utility Standard and Heavy Duty Blowers, Evaporative Air Coolers, Industrial Exhausters and Propeller Fans are now available under WPB regulations and priorities. Gas-fired heating equipment will be available when war restrictions are lifted to permit manufacture.

Illustrated literature, catalogs of performance data and details of Utility's marketing plans are available on request.

UTILITY FAN CORPORATION
4851 South Alameda, Los Angeles 11, California

Dealers Warned That Tough Competition Will Quickly Follow Postwar 'Lush' Era

DETROIT—Neither manufacturers nor appliance dealers can afford to plan on a sustained demand market for refrigerators, radios, or the other major household appliances after the war, it is the expressed opinion of two active executives in the field.

"That pent-up demand isn't going to last very long," J. H. Rasmussen, general sales manager of Crosley Corp.'s manufacturing division, told the Optimists' Club at Newport, Ky., recently.

After a short honeymoon, he believed, appliance selling is going to find itself right back in the closest kind of competition. A thorough sales-training program is going to be essential from the word "Go," and belongs right up in front among every manufacturer's postwar plans.

John C. Goodall, general manager of Chicago's Merchandise Mart, had much the same thing to say. The industry has taken the boom market predictions without giving consideration to equally sound pessimistic forecasts, he believed.

VIGOROUS SELLING NEEDED

"The terrific competition promised by new entries in the field, with their newly designed products, vast production facilities, huge advertising schedules, and independent dealer outlets, can do much to check indiscriminate buying," he said. "Vigorous advertising and merchandising programs will be even more vital in the postwar market than they were before the war."

Another factor to be considered, Mr. Rasmussen suggested, is the tremendous progress of production techniques since the war's beginning, and the growth of manufacturing companies themselves, conscious of their responsibility to supply jobs for their old workers and for servicemen returning from overseas.

He cited his own company as an example. Its personnel has increased from 1,800 prewar employes to a present 9,200, or five times as great, he said. "Five times our 1941 refrigerator production would be not far from one million refrigerators, or 25% of the industry's total sales in 1941.

"We are scheduled to turn out six million dollars worth of radio and radar equipment this month. Twelve months of that kind of production would mean 72 million dollars worth for a year's time, almost 30% of the industry's sales in the peak year of 1941.

"We know that Americans have paid off almost all their debts, that they have a good amount of excess cash on hand, and that they want to buy all kinds of appliances. But if one company can supply 25-30% of any one appliance, with so many companies in the field," he pointed out, "there is going to be plenty of hard intelligent competition.

BIGGEST NEED IS TRAINING

"Our company, and companies like us, are all set from a product and distributor standpoint. But that's only the start. With the postwar job's responsibility we all face, our biggest need is a sales-training program to meet that competition.

"There is going to be a lot of business, never doubt that," he concluded, "plenty for those who get ready for it now. But we're going to have to work for it and earn it. There's not going to be much left over for those who depend upon their rose-colored glasses for the postwar picture."

The belief that much of the pent-up postwar market is wishful thinking was expressed by Mr. Goodall on this point. Human nature is such that people's eagerness to buy fades proportionately as what they want becomes easier to get, he pointed out.

"Manufacturers cannot afford to be complacent," he said. "Many established firms that planned to postpone the introduction of newer models until the piled-up demands had been brought down to normal size are revising their postwar plans.

"The public may see newly designed home appliances on dealer shelves long before they had anticipated. And that will mean that successful dealers in turn will modify their merchandising policy to one of judicious shopping before making their commitments," he stated.

"The competitive market, peopled by consumers ready to spend but only for sound competitive goods, is not too far away."

Rasch Establishes New Outlet In New Orleans

NEW ORLEANS—O. G. H. Rasch has resigned as secretary-treasurer of the Interstate Electric Co. and Auto-Lec Stores, Inc., with whom he has been connected for 21 years, to establish the United Distributors, Inc., here.

The new firm has obtained the New Orleans distributor franchise for Majestic radios and plans to add other major appliance lines, said Mr. Rasch.

Mr. Rasch, who was at one time professor of economics at Holy Cross College, has been active in fields other than wholesale and retail distribution during his association with the two New Orleans appliance firms. He has operated O. G. Rasch Associates, management consultant firm, and the Rasch Realty Co. for the past several years.

He is the author of a book on manpower development entitled *Men Wanted,* and has written numerous articles for business magazines and lectured on management problems.

Richards & Conover Takes Admiral Line

KANSAS CITY, Mo.—Richards & Conover Hardware Co. will distribute Admiral radios and appliances throughout the Kansas City and Oklahoma City trading areas.

The organization is in its eighty-eighth year of the distributing business, and will operate a specialty sales organization to handle the Admiral products.

Executives of the company are J. E. Woodmansee, president and treasurer, and R. R. Lancaster, director of sales. M. E. O'Neil, vice president, heads up the Oklahoma City operation.

Western Auto Will Drop Door-to-Door Selling

KANSAS CITY, Mo. — Western Auto Supply Co. stores will merchandise both large and small appliances after the war—but in store selling only, declares R. G. Conner, vice president.

Door-to-door selling was tried out before the war, but it has been decided that this method is not suitable for the Western Auto Supply Co. type of operation, Mr. Conner said.

A. D. Gaines has been appointed buyer for the larger appliances.

Connelly To Reestablish Portland, Ore. Branch

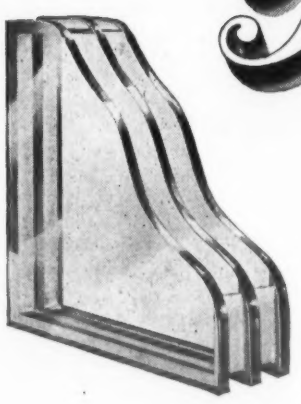
PORTLAND, Ore.—F. B. Connelly Co., Norge distributor with headquarters in Seattle, plans to reestablish its branch in Portland, according to a recent announcement by Frank C. Porter, general sales manager. The firm is preparing for a 50% increase in postwar appliance sales.

EQUIP YOUR CASES WITH BOTH

1-Insulation
2-Clear Vision

BY USING

Thermopane



With the advent of Libbey·Owens·Ford THERMOPANE, refrigerated case manufacturers can provide both Insulation and Clear Vision in their products. Today, THERMOPANE makes possible refrigerated display cases that both protect their contents and provide the customer with a visual choice.

THERMOPANE has four main advantages: (1) *Patented Bondermetic Seal.* This metal-to-glass seal bonds the panes of glass into one unit to prevent dirt and moisture from entering the air space. (2) *Insulating Air Space.* The layers of air inside the THERMOPANE unit are scientifically cleaned, dried, and hermetically-sealed at the factory. This sealed-in air gives THERMOPANE its high insulating efficiency. 3) *Clear Vision.* (The dry air is sealed in with the patented bond to prevent frost or condensation from forming on the inner surfaces of the panes of glass. (4) *Only Two Surfaces to Clean.* The glass surfaces inside a unit are specially cleaned at the factory before the unit is sealed.

If you have an insulating-vision problem in your product, investigate THERMOPANE. Our new booklet —"Technical Data Sheets on Thermopane"—describes it fully. It's yours for the asking. Write Libbey·Owens·Ford Glass Co., 60124A Nicholas Bldg., Toledo 3, Ohio.

SEND FOR THIS BOOK Today!

L O F LIBBEY·OWENS·FORD
a Great Name in GLASS

DON'T LET Postwar Business slip through your fingers

BE READY TO TAKE CARE OF ALL COMMERCIAL REFRIGERATION NEEDS just as soon as the green light says "go".

The complete Sherer line—freezers and display refrigerators of all kinds will be available when restrictions are removed. Reach-in refrigerators and walk-in cooling rooms, as well as the Sherer *distribution franchise,* are available *now!* Write or wire today.

SHERER-GILLETT COMPANY
MARSHALL, MICHIGAN

COMPARE NORGE WITH OTHER COMBINATION LINES!

When you consider the *complete* Norge line you'll agree that with Norge refrigerators, Norge gas and electric ranges, Norge washers and Norge home heaters, you will have a leader in *all five of the major volume fields.* Facts and figures prove that among all major appliances *these five produce the greatest unit sales.*

"ONLY NORGE OFFERS THE PROFITS OF THIS COMPLETE LINE OF MAJOR APPLIANCES!"

	Norge	Company B	Company C	Company D	Company E
REFRIGERATION	Yes	Yes	Yes	Yes	Yes
LAUNDRY EQUIPMENT	Yes	No	No	Yes	Yes
GAS RANGES	Yes	No	No	No	No
ELECTRIC RANGES	Yes	Yes	Yes	Yes	Yes
HOME HEATERS	Yes	No	No	No	No

Many . . . *and powerful* . . . are the profit advantages Norge offers aggressive dealers. A *complete line* of major household appliances all under one famous name!

Every successful dealer knows that one outstanding appliance will sell another of the same brand. A family pleased with a Norge Rollator refrigerator is a ready prospect for a Norge range. That's basic appliance selling! And it's just one of the many sound reasons why Norge dealers will enjoy the *profits* of *extra sales.*

More and more, successful dealers are realizing the many advantages in presenting a complete line of major household appliances styled, engineered and precision-built under the famous name of Norge. They agree that specialization on one line brings *greater public identification, better advertising value, easier selling, closer wholesaler cooperation, greater economy* and *reduced inventory demands.* Which all add up to more profit for them! That is why everybody says "*you'll have a great future with Norge.*"

NORGE DIVISION, BORG-WARNER CORPORATION, DETROIT 26, MICHIGAN

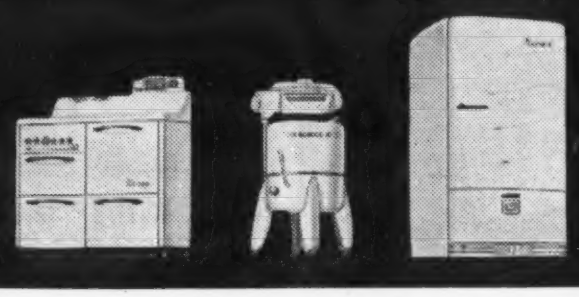
A BORG-WARNER INDUSTRY

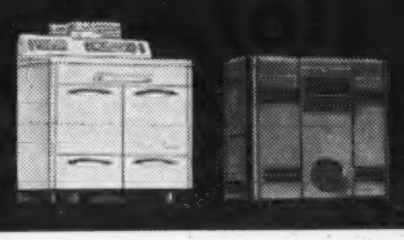
BETTER PRODUCTS FOR A BETTER WORLD

SEE

NORGE

BEFORE YOU BUY





"...for outstanding production of war material."

Fedders Wins $356,170 Income Tax Refund

BUFALO—The Internal Revenue Bureau reported it had refunded an over-assessment of $356,170 in income taxes against the Fedders Mfg. Co. for the period from July 18 to Dec. 31, 1941. The $356,170 refund was deflected in the 1942 annual report, having been added to surplus.

Virginia Firm Formed

RICHMOND, Va.—Sealey & Sons, Inc., Hampton, has been incorporated by the Virginia State Corporation Commission "to manufacture and deal in all kinds of electric refrigeration, electric ice boxes, washing machines, and other electrical accessories."

Parts Diverted Into Complete Units; Firm Suspended By WPB

KANSAS CITY, Mo.—Two-month suspension of priority manufacturing, and delivery privileges has been ordered by the War Production Board against Sun-Ra Frozen Foods, Inc. here for alleged violations of Orders L-38, L-41, and P-126.

WPB allegations charge the firm with four violations. At least 13 orders for refrigeration equipment and parts of the value of $1,000 were purchased by the firm, but instead of being used for repair purposes were incorporated into and delivered with new refrigeration systems, states WPB.

York Corp. Postwar Planning Points To a 25% Reduction In Number of Items It Will Produce

Engineering and Marketing Heads Combining Thinking To Provide Basis For Simplification

PHILADELPHIA — A streamlined program for postwar product development and redesign will make possible a reduction as high as 25% in the number of refrigeration and air conditioning items manufactured by the York Corp., it was reported here recently.

Speaking before a meeting of the Sales Managers Association of Philadelphia, W. S. Stair, director of product development for the company, declared that one of the major postwar problems of the refrigeration and air conditioning industry at present is that of simplification and reduction in number of types and sizes of equipment without loss of markets or potential applications.

"There are some 50 major markets for our products and in order to cover these markets we build 55 different classes of commodities which, when broken down in various sizes, represent 400 different items, not including parts," Mr. Stair explained. The present policy, he said, is centered on establishing a list of postwar commodities which will include some of York's present products without change, others of the present line redesigned for lower costs, better performance, and standardization and a certain group of new products.

Mr. Stair pointed out that for the past year all product development operations previousy handled by several different departments are now centered in one group reporting directly to the president. This group, in addition to handling product development, studies markets and marketing methods, consumer needs, and acceptance and joint developments without outside manufacturers. The latter activity, he added, is aimed at finding wider application of York equipment in packaged merchandise produced by other manufacturers.

"As in other industries," the York executive said, "it may appear that considerable work could be done by our development engineers on certain doubtful projects which would eventually go for naught due to subsequent market studies which would make it advisable to drop a project. However, our present schedule is remarkably free from this penalty for the reason that aside from redesign it is largely devoted to component parts rather than completed packages.

"Practically every refrigeration or air conditioning system or unit which we build incorporates some type of gas pumping means and heat transfer surface. This is true whether it be a small portable air conditioner or a refrigerating system for a vast cold storage plant.

"Therefore, while our development engineers have been striving for more compact, efficient, and lower cost component parts which may find use in a wide variety of unitary equipment, we have been conducting market studies which will help us to make a final decision to incorporate these components into finished models and make capital expenditures for tools and plant alterations as may be found necessary."

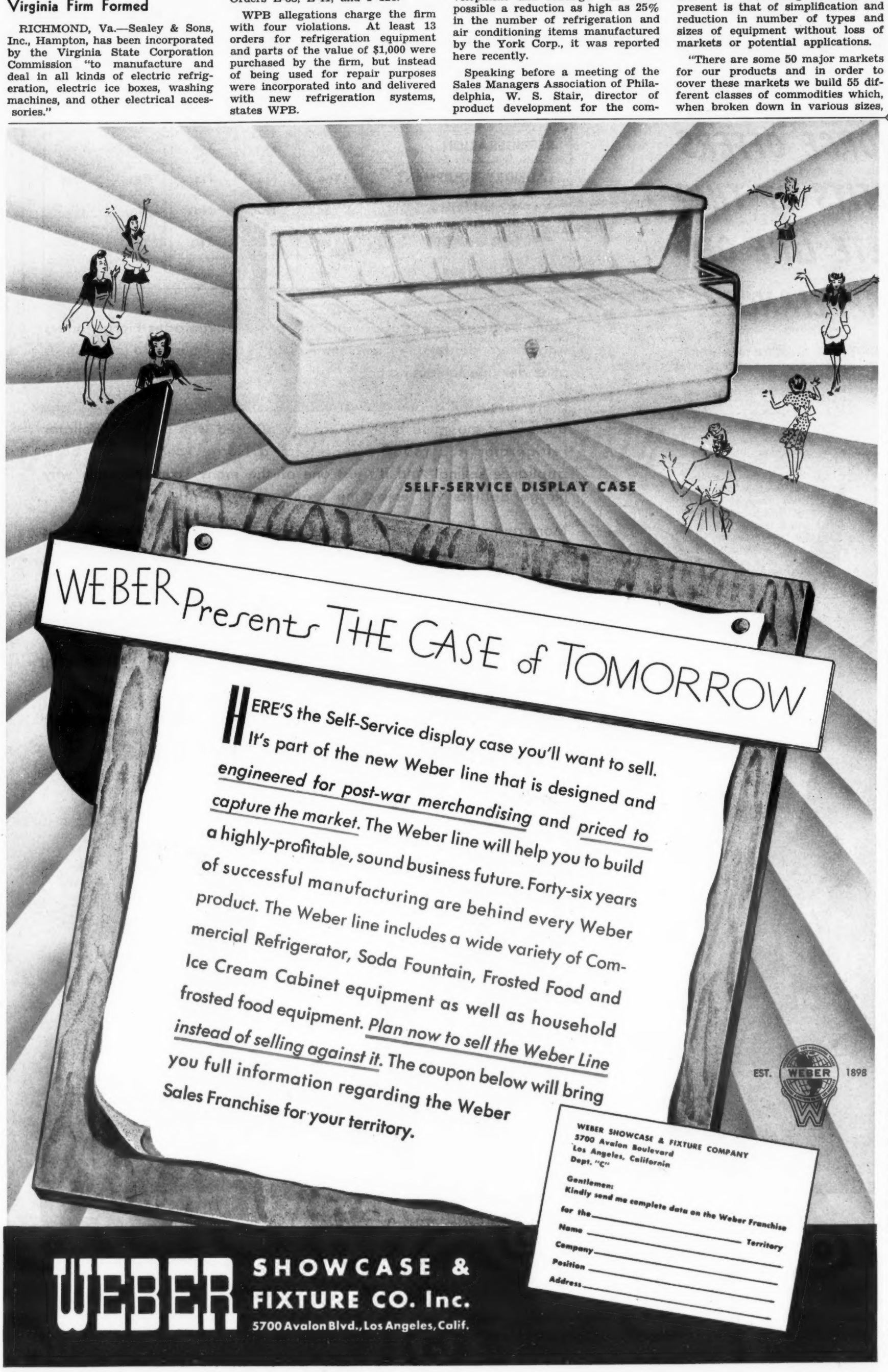
Lindsay Structure In Aluminum Used For Air-Borne Coolers

CHICAGO—Lindsay Structure, the patented tension method of producing light weight metal enclosures, is now being manufactured in aluminum as well as steel for such products as air-borne refrigerator units, announces Owen S. Lindsay, partner in charge of sales for Lindsay & Lindsay here.

Manufactured of 61 ST alloy, aluminum Lindsay Structure with panel sheets of .020 in. or .025 in. thickness, possesses adequate rigidity for a wide variety of uses, such as cabinets for many types of electrical and electronic equipment, LCL shipping containers for air cargo, refrigerator units, food processing equipment, small machine housings, and similar applications, said Mr. Lindsay.

Using sheets of .030 in. thickness, the company is also producing aluminum Lindsay Structure for truck and trailer bodies.

"We are manufacturing aluminum Lindsay Structure as a complementary product to the steel structure, not to replace it," he said.


SELF-SERVICE DISPLAY CASE
WEBER Presents THE CASE of TOMORROW
HERE'S the Self-Service display case you'll want to sell. It's part of the new Weber line that is designed and engineered for post-war merchandising and priced to capture the market. The Weber line will help you to build a highly-profitable, sound business future. Forty-six years of successful manufacturing are behind every Weber product. The Weber line includes a wide variety of Commercial Refrigerator, Soda Fountain, Frosted Food and Ice Cream Cabinet equipment as well as household frosted food equipment. Plan now to sell the Weber Line instead of selling against it. The coupon below will bring you full information regarding the Weber Sales Franchise for your territory.
WEBER SHOWCASE & FIXTURE COMPANY
5700 Avalon Boulevard
Los Angeles, California
Dept. "C"
Gentlemen:
Kindly send me complete data on the Weber Franchise
for the _____ Territory
Name _____
Company _____
Position _____
Address _____
EST. WEBER 1898
WEBER SHOWCASE & FIXTURE CO. Inc.
5700 Avalon Blvd., Los Angeles, Calif.

CORDLEY
THE BATTLE PROVEN
Electric
WATER COOLERS
● THE PROVING GROUNDS OF WAR offer dramatic confirmation of the ability of Cordley Electric Water Coolers to withstand hard knocks. Supplied since 1942 for shipboard use to the Navy (Contract NXs 9982) and to the Maritime Commission. These same Battle-Proven Coolers are now available for essential uses on land. Write for facts.
CORDLEY & HAYES
452 Fourth Ave., New York 16
Manufacturers of Water Coolers For 35 Years

Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

people—providing we can find a formula which will protect our insuperable American system of free enterprise. (That formula has not yet been defined.)

The opposing school of thought—exemplified by the New Dealers—holds that as a nation we're better off to lose those foreign payments in return for maintaining employment here at home, along with the added currency circulation which indubitably makes for temporary prosperity.

One thing well worth remembering is that as a result of war-urgent financing, nearly all of our Good South American Neighbors have favorable trade balances with us. That means that they have money to spend with us, deferred wants, prepaid.

Our own capitalists are not asleep at the switch in this situation, as the flow of American capital toward Mexican and Central American investments will prove. This investment flow at the very least should raise Mexican living standards and average incomes to a point where more customers for our products will be available.

Similar flow of American capital abroad—paralleling the era of British investments in so-called "backward countries" after the Napoleonic Wars—probably is to be expected. Expropriation as an approved instrument of national policy—Secretary Hull's efforts to the contrary notwithstanding—is the insect in the program.

World Trade Has a New Significance

Some of the smallest manufacturers identified with our industry are now making plans to export their products. There seems to be a new, or renewed, awareness in this industry that the foreign market for refrigeration and air conditioning can offer as much as 20% bonus on domestic volume for the astute exporter. If only half that hope—10%—can be realized, strenuous efforts to snare a good volume of foreign orders can well be justified. That extra 10% can be almost clear profit under our present tax system.

Such newcomers to foreign trade are faced immediately with this problem: shall they attempt to set up their own distribution system of importers, or shall they take the easy way out of placing all their export business through one "export factor," whose charges for his services are, as the least you can say, ample?

Decision involved is far more important than most relatively small manufacturers seem to realize. It's a decision which certainly cannot be entrusted to the conventional flip-of-a-coin. A corporation's whole future may depend on the successful arrival at said conclusion, believe it or not.

Those who are new at the business should not fail to consult the United States Department of Commerce's Bureau of Foreign and Domestic Commerce on their problems. This bureau is one which is efficiently run, and which commands experts whose services the novice at exporting could not hope to buy.

At the drop of a request this bureau will provide you with trade statistics, market surveys, lists of importers and exporters affecting your business, credit reports, exchange reports (always important and often overlooked), tariff policies and practices, and local regulations which are often so all-important to the exporter.

This same well-informed bureau has excellent information on current trade practices, credit terms, competition, sales susceptibilities and pitfalls, and local buying power and tastes.

Foreign Surpluses

FEA is now organizing a special division to handle surplus sales abroad, with Commander Roger Hyatt, USNR, as assistant to the administrator in charge of surplus property. Hyatt, recently put on the inactive list, is a senior vice president of the Continental Illinois National Bank & Trust Co. of Chicago.

Timing and transportation, it is currently believed, will be the largest factors determining disposition of surpluses found abroad at the war's end. Purchasing power of the governments needing the goods will also be important.

At this time, key problems are being discussed with exporters, and plans are being made on the basis of recommendations made by a panel of industry men, including H. D. Bennett, president, Toledo Scale Co. and Defiance Machine Works; John Donaldson, vice president in charge of merchandise, Sears-Roebuck, Chicago; and Clark Minor, president of International General Electric. This committee's recommendations will form much of the basis for FEA operations.

Briefly, these recommendations are:

That foreign surplus sales should be carried out in line with U. S. foreign policy.

That they should be used to maintain and strengthen import and export trade by not permitting surpluses to hang over the market too long, and by taking the future export market into consideration when selling decisions are made.

That trade-marked goods located abroad should be brought to the original maker's attention to make sure that their condition and manner of sale would work no injury to him.

That surplus sales should be handled by a new division of FEA rather than by any existing division.

That the selling organization should be decentralized, with world-regional offices staffed by highly capable disposal men whose authority should be greater than that of disposal agency sales managers located within the U. S.

The size of the foreign demand for U. S. surpluses will be considerable, FEA thinks.

Demands for many surpluses by foreign governments may be very large, but many of them will not have foreign exchange to pay for them.

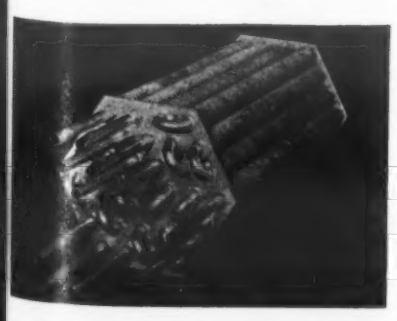
One plan, being talked about now, in some government circles, is for France, for instance, to draw up a plan for rebuilding her transportation system, or for China to make a plan for building one. On the basis of such a plan, this country might make loans enabling foreign countries to buy the surplus goods we have to sell.

Three-Pronged Dilemma

In such goods as machine tools, the dilemma of decision is three-pronged: (1) Should we sell abroad and equip our potential competitors; (2) Should we refuse to sell and give the market to other countries; (3) Should we sell exclusively at home and wreck the domestic market for years to come? These are extremes; the answers will obviously be in the form of compromises.

The probabilities are that the sales policy for goods overseas will be determined largely by the cost of transportation in relation to the value of surplus goods. The rule may be to sell as much as possible on the spot when transportation homeward seems unfeasible, uneconomic, or subject to undue delay.

ROME-CONDENSER
★ Jointless Type ★



Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

ROME-TURNEY RADIATOR COMPANY
222 CANAL ST.
ROME, N. Y.

JOBBERS

Quick Action Secures Profits NOW with the COMPLETE AMCOIL LINE

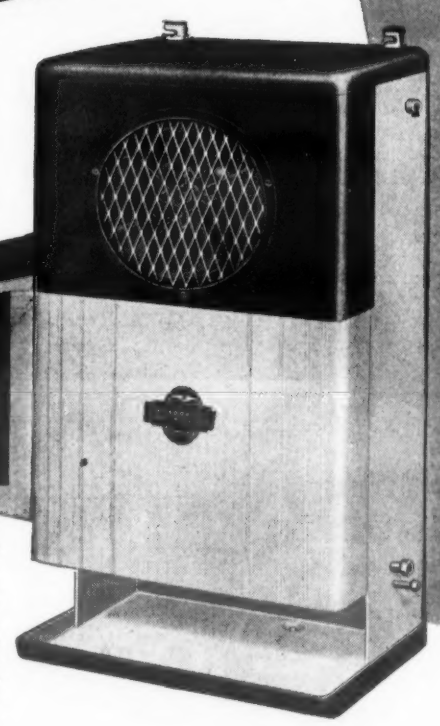
Many Types of UNITS for Ever-Expanding Industrial and Trade Needs... ALL Obtained from ONE Source!

EASY TO SELL...
IMMEDIATE DELIVERIES TO MEET GROWING DEMAND

Order a stock NOW of these Big Profit AMCOIL UNITS

DEALERS
Profit by Quick Action With This Complete Line—*Immediate Shipment From Your Local Jobber Or Direct From Us*

AMCOIL COMFORTAIRE CONDITIONER—A new development in air-conditioning, this completely automatic unit creates cool, dry, comfortable air at a fraction of the cost of re-heat systems. This is made possible by the use of the new and novel latent cooler patents.



ANOTHER NEW AMCOIL UNIT...
The Alservice Reach-in Cooling Unit
FOR REACH-IN-BOXES

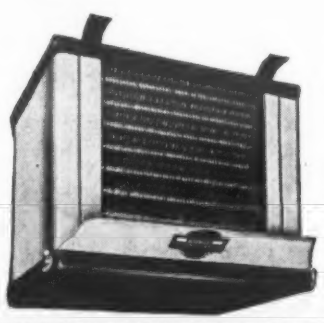
Here's another addition to the AMCOIL Line of compact air-conditioning and refrigerating units. It's new... we can make immediate deliveries... and there's a big demand for them right *NOW*.

This ALSERVICE REACH-IN COOLING UNIT... like all the AMCOIL Cooling Units... is an attractive, easy-to-sell and profitable item. It is compact, efficient, and occupies a minimum of space... easy to install in all types of Reach-in Coolers.

A *sturdy* unit that is economical in operation and maintenance. It is 21" wide, 9" deep, and 45" high. Streamline design in attractive white enamel and a black crackle finish. Made in two models now ready for immediate delivery:

Model RI—40—5250 BTU Capacity at 18°—T.D.
Model RI—45—6150 BTU Capacity at 18°—T.D.

AMCOIL FOOD CONDITIONER. A wall mounted unit combining high, controlled humidities up to 85% with temperatures of from 35° to 40° F. Designed for walk-in boxes it *automatically* preserves foods without dehydration. Can be used effectively to store meats, fruits and vegetables, butter, cheese, eggs, flowers, bakers and confectioners products, to retard dough, etc.



AMCOIL ALSERVICE OPEN FACE COOLING UNIT. Is designed for efficient cooling and serves as a general utility unit in preserving foods and other commodities where a forced draft cooling unit is required. Streamlined design, in attractive grey and black color scheme, it can produce temperatures down to 34° F.

NEW
PANEL REACH-IN FOOD CONDITIONER
A compact, streamlined unit for reach-in boxes. Combines high, controlled humidities, up to 85%, with temperatures down to 36°F.
Now Ready for Delivery

ZERO BREEZE LOW TEMP UNIT. A low temperature unit equipped with automatic electric defrost... wall-hanging model... produces temperatures from +20° F to −20° F... defrosts automatically on each off-cycle.

MANUFACTURER'S REPRESENTATIVES
P. J. Burrill, 800 N. Clark Street, Chicago, Ill.
Frank M. Eversden & Associates, 220 South 16th Street, Philadelphia 2, Pa.
Richard Barthelmess Sales Co., 1711 Challen Avenue, Jacksonville 5, Fla.
J. E. Oliphant & Co., 505 Uhler Building, Marion, Ohio
John J. Madden, 212 Madison Street, Dedham, Mass.

AMCOIL
AMERICAN COILS CO.
25-27 LEXINGTON STREET - NEWARK, 5, N. J.

EXPORT DEPT., 13 E. 40th St., New York 16, N. Y., U. S. A.
Cables "ARLAB" N. Y.

AN AMAZING NEW-TYPE PRECISION UNIT
SOON TO BE RELEASED

Years ahead of the field for meat and provision storage. Holds precise cabinet temperature and maintains high relative humidity by slow, controlled, air-flow. ★ Reduces dehydration and weight loss without producing sliming. ★ Completely automatic including defrosting. ★ To be available for every type and size of cabinet for above-zero application.

Advance Inquiries Invited From Cabinet Manufacturers — Sales Organizations.

M&E EST. 1866

Designed & Manufactured By MERCHANT & EVANS CO.
Distributed Exclusively by
M&E REFRIGERATION ACCESSORIES CO.
2035 WASHINGTON AVE., PHILA. 46, PA.
An Affiliate of Merchant & Evans Co.

Expanded Program of Association and Industry Activity Planned by Rema

(Continued from Page 1)

that in its initial stages, at least, the public relations program would be sponsored exclusively by Rema. Cost of carrying it out, if it is given final approval, will likely be borne by members through special assessments.

Another of the evidences of a broadening of the activities of Rema was the talk by its president, A. B. Schellenberg, in which he threw out to the association some concrete proposals for some sort of an all-industry organization that "would be truly representative of, and which could speak with the voice of authority for, the industry." (This talk is reported in detail elsewhere in this issue.)

Exhibition Plans Kept Boiling

Rema, which sponsored the All-Industry Refrigeration and Air Conditioning Exhibitions immediately prior to the war, is planning very definitely to continue this activity.

A membership vote prior to the meeting vetoed tentative plans for an Exhibition in the spring of 1945, but C. M. Benson, chairman of the committee in charge of the exhibition, promised that it would be held "as soon as conditions permit." The first show after the war will in all likelihood be held at the Stevens hotel, Chicago.

Rema is also engaged in an aggressive campaign to expand its membership, and at the meeting E. M. Flannery, chairman of the membership committee, announced that the following companies had joined the association since April of this year:

New Members Named

Curtis Refrigerating Machine Division of Curtis Mfg. Co.; McQuay, Inc.; Merchant & Evans Co.; Puro Filter Corp. of America; Revere Copper & Brass, Inc.; Servel, Inc.; Tyler Fixture Corp., and Westinghouse Electric & Mfg. Co.

Mr. Flannery gave a comprehensive outline of the functions and activities of the association, as follows:

"Now just what are the functions of Rema?

"1. The organization is broken down into product groups such as: (1) High Side Equipment; (2) Heat Transfer Equipment; (3) Valves and Flare Fittings; (4) Refrigerants, Lubricating Oils, Chemicals; (5) Water Coolers; (6) Flow Control Valves; (7) Temperature Controls; (8) General Products Group; so that we are a full-fledged association carrying on activities in a legal manner similar to the outstanding associations in other great industries. The product groups give an unusual opportunity for an exchange of ideas and profitable conferences.

"2. The relationship we have with the jobbing industry through our joint meetings and with the refrigeration service engineers is enjoyed by no other association in our industry. Both of these organizations look up to Rema for guidance, and this will have a far reaching effect in the future.

"3. Rema sponsors the only 'All Industry Show' which will be larger and better with the coming of peace.

Program on Standards

"4. It has been the policy of Rema to encourage and assist the product groups in setting up commercial standards. With the able assistance of I. J. Fairchild of the Bureau of Standards, standards have already been set up or are in the process of being written by such Rema product groups as water coolers, refrigeration coils, expansion valves, valves and fittings, etc. It has been the policy of Rema to work with the American Society of Refrigerating Engineers for purely engineering standards.

"Other Rema activities include a Bulletin Service ably taken care of by our executive secretary, who maintains an association office completely equipped and staffed to carry out the association's program. His office arranges for general association business, collects and distributes data and material, arranges the details of product group meetings, and all other phases of the association's activities.

"We have credit information interchange service, and a credit committee, which will grow in importance as the postwar period progresses, Then there are the Refrigeration Service Engineers Society relations committee, ASRE relations committee, market development committee, jobbers relations committee, and product group committee."

The jobbers relations committee has always been one of the most important pieces of Rema activity, providing, as it does, a medium for the interchange of suggestions as to how to improve relationships between the producer and the wholesaler of refrigeration equipment and supplies. G. E. Graff, reporting on the most recent meeting of the committee with the corresponding committee of the National Refrigeration Supply Jobbers Association, said that these are some of the suggestions the jobbers had for the manufacturers:

Jobbers' Suggestions

Simplification of lines.

Simplification of product numbering systems.

Condensed catalogs with obsolete items deleted.

Price sheets that give net costs.

Repair and replacement prices by trade classifications.

Standard payment and cash discount policies.

Clarification of trade classification and resale price policies.

Packing slips in shipments, particularly in cases of partial shipment.

Invoices that are easily understood.

The product group activity is considered by the membership as one of the most important of the association's activities. H. F. Spoehrer, chairman of the product group committee, reported on the progress of this type of work.

Product groups are particularly necessary in Rema, Mr. Spoehrer said, because of the wide variety of product representation. The product group setup is closely knit into the Rema organization. One representative from each product group must hold membership on the board of directors, and all actions of the individual groups must receive approval of the board.

Product Group Activity

A separate product group has been formed for the tubing and sweat fitting manufacturers, said Mr. Spoehrer, separating them from the valves group. In another move of this type, beverage coolers were separated from the water cooler product group and placed under the refrigerated fixture group.

One complaint received by the product group committee, said Mr. Spoehrer, is that not enough attention is being given to the components that go into a household refrigerator. A survey will be made to determine just how much business is done by Rema members in household electric refrigerator components, and to determine whether or not a new product group should be formed.

H. T. McDermott, secretary of the Refrigeration Service Engineers Society, reported on the results of a survey among R.S.E.S. members on the "Parts Replacement Market." This survey revealed that the parts most needed were (1) motors; (2) compressors; (3) evaporators, and (4) expansion valves.

The results of the survey showed that the service engineers had on hand only enough motors, compres-

(Concluded on Page 11, Column 1)

★ ***Increases Overall Capacity.***

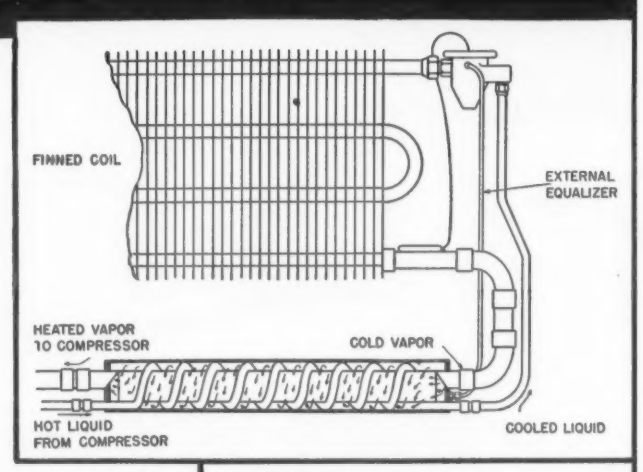
★ ***Reduces running time as much as 20%.***

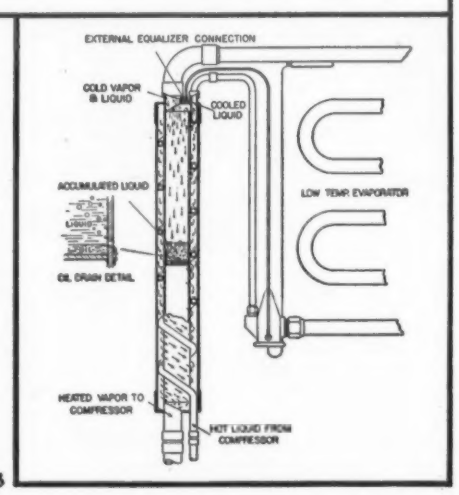
. . . prevents sweating and frosting of suction lines, as well as oil slugging, and brings "on-the-line" jobs within the normal cycle range.

Superior

"Fractional Tonnage" ECONOMIZERS

. . . are no longer considered "unnecessary gadgets." Data now available substantiates all claims for appreciable increase in overall capacity. An economizer should be installed in each evaporator circuit of each new and existing installation of commercial and industrial refrigerating equipment. Pressure drop is negligible . . . capacity per unit size is extremely high . . . all joints are silver soldered.





Superior **"Hy-K" ECONOMIZER-ACCUMULATORS**

- High ratio of prime to secondary, and liquid to vapor surface.
- Positive vapor contact with all surfaces . . . hence high "K" factor.
- Maximum capacity per unit size.

"Hy-K" Economizer-Accumulators are equally suited for use in high, medium or low temperature systems.

If you haven't a copy of the new Superior Catalog R-2, request one today.

No 113

SUPERIOR VALVE & FITTINGS COMPANY
PITTSBURGH 26, PENNSYLVANIA

SALUTE TO THE WEST

This important, growing frontier is doing a magnificent job.

Keeping pace with the growing West is the California Refrigerator Co., of San Francisco and Oakland, California, progressive jobbers in refrigeration and air conditioning supplies, replacement parts, equipment and tools.

Outstanding, indeed, is this company's record of long experience and dependability as an efficient source of supply, both for the armed forces and the civilian trade.

In this day of unprecedented distribution problems, concentrated and intelligent effort is doing an important job—*for today and tomorrow.*

Clarence F. (Sandy) Pratt, President

CALIFORNIA REFRIGERATOR Co.

1077 Mission St. San Francisco, Calif.
441-23rd St. Oakland, California

Plans For Expanded Activities Outlined To Rema Members

(Concluded from Page 10, Column 5

sors, and evaporators to handle about one sixth of estimated current needs, and only about one-fourth of the needed number of cold controls and expansion valves.

Stocks of V-belts on hand were somewhat better, but many of these were of odd sizes and thus of little use.

An interesting point brought out in this survey revealed that of those replying, 62½% said they were interested in selling new equipment after the war, and 37¼% declared themselves to be interested in the service end of the business only. The vast majority of those interested in the service end of the business only are "one-man" shops, said Mr. McDermott.

F. J. Hood, vice president of Rema, then presented a resume of a survey made of parts and supply jobbers to get their ideas on trends in their business and in the refrigeration industry generally. The following main points were brought out—

How Jobbers View Market

1. It is now considered that there will not be any great changes in the nature of the parts jobbing business. However, many newcomers to the field are expected, possibly some from the industrial supply field. Many jobbers are considering broadening the lines that they handle.

2. Many jobbers are planning to employ more personnel, especially in the line of salesmen and engineers, and they are also planning to improve their store fronts and layouts.

3. They seem about equally divided on the subject of selling self-contained or "package" refrigeration equipment. A number of them feel that the policies of the major manufacturers may be the decisive factor in this matter.

They have much the same feeling on the matter of new types of equipment such as home freezers—that is, that the manufacturers will pretty much determine the distribution policies.

However, there is a pretty general feeling that the refrigeration service company will be a very important factor in merchandising refrigeration equipment, therefore, the parts and supply jobber may have to become a "jobber-distributor."

The subject of relations and cooperation with the R.S.E.S. was discussed by Paul Reed. He made a plea for more educational help for the service engineers, and talked about the idea of an "all-inclusive" manual which would provide information on all makes of equipment.

He also announced that R.S.E.S. is planning a project whereby it will gather opinions from its members in the field on the subject of product design, which in turn will be passed along to the manufacturers.

The fact that the situation on payment and credits is so rosy right now should not lull manufacturers into a feeling that it will continue to be so in the postwar era, O. L. Rose of Dole Refrigerating Co. told the Rema members in his talk on "Postwar Credits."

He predicted that many new firms would enter the supply and service field, including many veterans and possibly some who were trained in the government training program. New companies always present a problem on credits, said Mr. Rose.

Another factor in the credit problem, said Mr. Rose, will be the big expansion in frozen food equipment and other new lines, with a possible big mortality rate.

Mr. Rose then said that plans were being made for an extension of the credit service to Rema members beyond the current practices of letters of exchange of credit information, and meetings of credit managers.

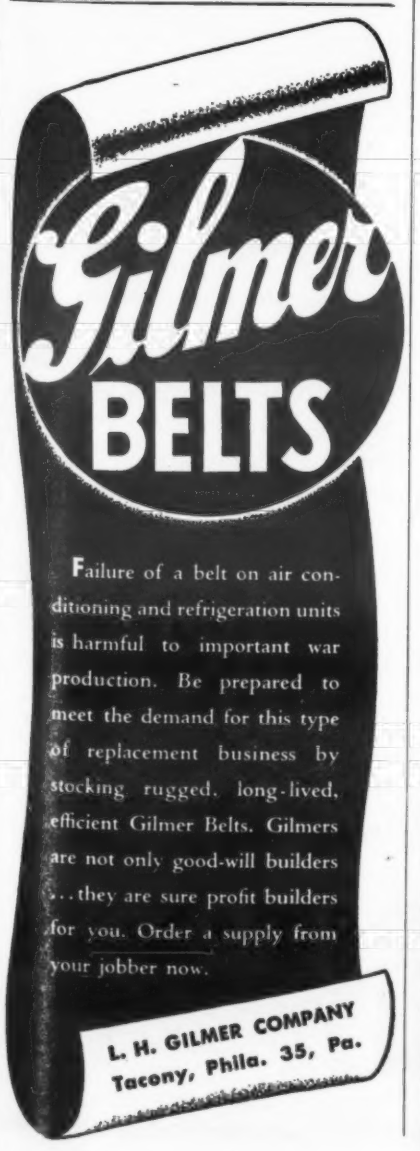
Under the proposed new plan an outside organization would be engaged which would provide more complete credit information including a paying guide (paying record of customers) and a historical record of accounts, etc.

Lee Johns Resigns Post With Utility

WEST UNION, Iowa—Lee G. Johns is leaving Central States Power & Light Corp. here, after 16 years of service for the company. The Central States Power & Light Corp. has been purchased by the Interstate Power Co., Dubuque, Iowa. Mr. Johns was serving as new business manager and assistant secretary at the time of the sale.

Chicago Meeting Brings Parts Jobbers Together

Cameraman Austin Jones caught this group at the N.R.S.J.A. meeting in Chicago last week. Left to right: Frank Pond, Refrigeration & Industrial Supply Co., Minneapolis; Mrs. E. L. Tramposh; E. L. Tramposh, Refrigeration Equipment Co., Kansas City, Mo.; Al Fine, Kerotest Mfg. Co.; and Carl Ruegg, Ruegg Refrigeration Supply, Omaha, Neb.


Gilmer
BELTS
Failure of a belt on air conditioning and refrigeration units is harmful to important war production. Be prepared to meet the demand for this type of replacement business by stocking rugged, long-lived, efficient Gilmer Belts. Gilmers are not only good-will builders ... they are sure profit builders for you. Order a supply from your jobber now.
L. H. GILMER COMPANY
Tacony, Phila. 35, Pa.

DESIGNERS! ENGINEERS! REFRIGERATION SERVICE MEN!

Specify DU PONT METHYL CHLORIDE 99.5% pure FOR YOUR REFRIGERATION WORK!

DU PONT METHYL CHLORIDE—SPECIFICATIONS

Purity	99.5% Methyl Chloride
Moisture	0.008% by wgt. max.
Acid (as HCl)	0.001% by wgt. max.
Residue on Evaporation	0.01% by wgt. max.
Boiling Range (760mm)	—24.6° to —23.6°C.
Color	water white, clear

HIGH-PURITY Du Pont Methyl Chloride is a dependable product, designed to meet your exacting requirements. May be used as an original charge, for recharging, or as a completely satisfactory replacement for refrigerants that are scarce or not available.

ORDER WHAT YOU NEED, but don't stock up unnecessarily. You can get Du Pont Methyl Chloride when you need it—quickly—from stocks in principal cities.

WE KNOW YOU'LL COOPERATE by *returning empty cylinders promptly*. For that's how you can help assure rapid deliveries to yourself and others.

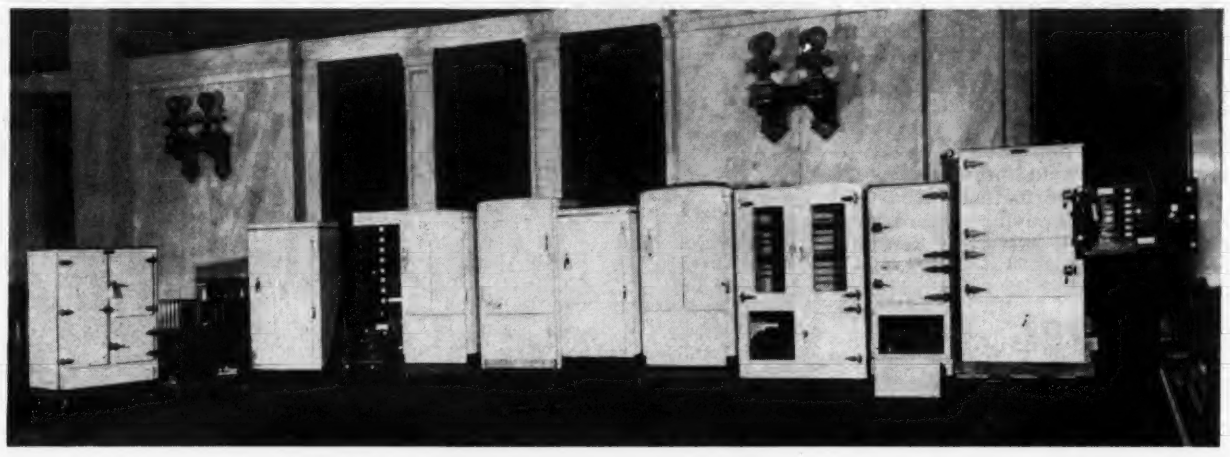
PUSH THE PEACE WITH *WAR BONDS!*

This free book is yours for the asking! Du Pont's 92-page Manual on Methyl Chloride is filled from cover to cover with practical, helpful data for every air conditioning and refrigeration designer, engineer and service man. Write for your copy today! E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

DU PONT ELECTROCHEMICALS

DU PONT BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

Part of the 'Evidence' In Refrigerator Patent Case



Part of the evidence introduced during the patent suit of Refrigeration Patents Corp. and Potter Refrigerator Corp. vs. Stewart-Warner Corp. in Chicago were these various models and working parts of household electric refrigerators. From left to right they are: (1) A 1928 icebox cabinet in which was installed an evaporator made by T. Irving Potter in Portland, Ore., which frosted up during compressor operation and defrosted itself when the compressor was idle; (2) condensing unit made by Potter in 1928 by which the evaporator in the icebox was refrigerated; (3) a Potter two-compartment refrigerator model D-136, which has been in continuous service since 1937; (4) demonstration apparatus used to explain the elementary principles of refrigeration; (5) Stewart-Warner "Dual-Temp" refrigerator model 660; (6) Stewart-Warner "Dual-Temp" model 872; (7) Potter two-compartment refrigerator model D-107; (8) Stewart-Warner "Dual-Temp" household refrigerator model 769;

(9) replica of August P. Anderson's 1917 two-compartment refrigerator; (10) Davenport and Estler refrigerator built in 1928; (11) Potter two-compartment refrigerator built at Portland, Ore., early in 1931; (12) apparatus to demonstrate principles of evaporative cooling.

* * *

Patent Suit Verdict Favored Potter on 2 Out of 3 Patents

CHICAGO — As reported in the Nov. 27 Bulletin Edition of AIR CONDITIONING & REFRIGERATION NEWS, Stewart-Warner Corp. has been ordered by a jury in the U. S. District Court in Chicago to pay damages totaling $238,000 to Potter Refrigerator Corp. of Buffalo and Refrigeration Patents Corp. (the Potter organization's patent-holding firm) for patent infringements involved in Stewart-Warner's manufacture and sale of "Dual-Temp" refrigerators.

The jury returned a verdict which awarded $225,000 damages to Refrigeration Patents Corp. for infringement of the Bronaugh & Potter Patent No. 2,056,165, and $13,000 damages to the Potter Refrigerator Corp. for infringement of the Potter patent No. 2,171,712.

Major patent involved in these suits covers a household refrigerator designed with two separate compartments, one compartment for preserving ordinary foods in a moist, cold atmosphere; and the other compartment for quick-freezing.

To Preserve Whole Blood For Our Wounded

Production line at Mills Industries turning out refrigerated cabinets for transporting whole blood directly to the battle zone. Experience has demonstrated that in certain cases whole blood is more effective than plasma in saving the lives of wounded.

* * *

Blood Cabinets Made To Withstand Shock

CHICAGO — Refrigerated cabinets for transporting whole blood directly to battle zones are now being manufactured for the U. S. Army by Mills Industries, Inc. here.

The cabinet is specially constructed to withstand the pounding it will receive traveling through battle areas, it is said. Because the cabinet is likely to be used in all climates it is fitted with automatic heating equipment in addition to refrigeration to prevent freezing of the whole blood.

Incidentally, all the workers on the line assembling the cabinets have donated blood to the Red Cross.

Bullock To Direct Sales For Midwest

GALESBURG, Ill.—C E. Bullock, one of the founders of Midwest Mfg. Co. here, has been named director of sales. J. G. Battles, who has been in charge of refrigeration sales since 1937, continues as sales and advertising manager.

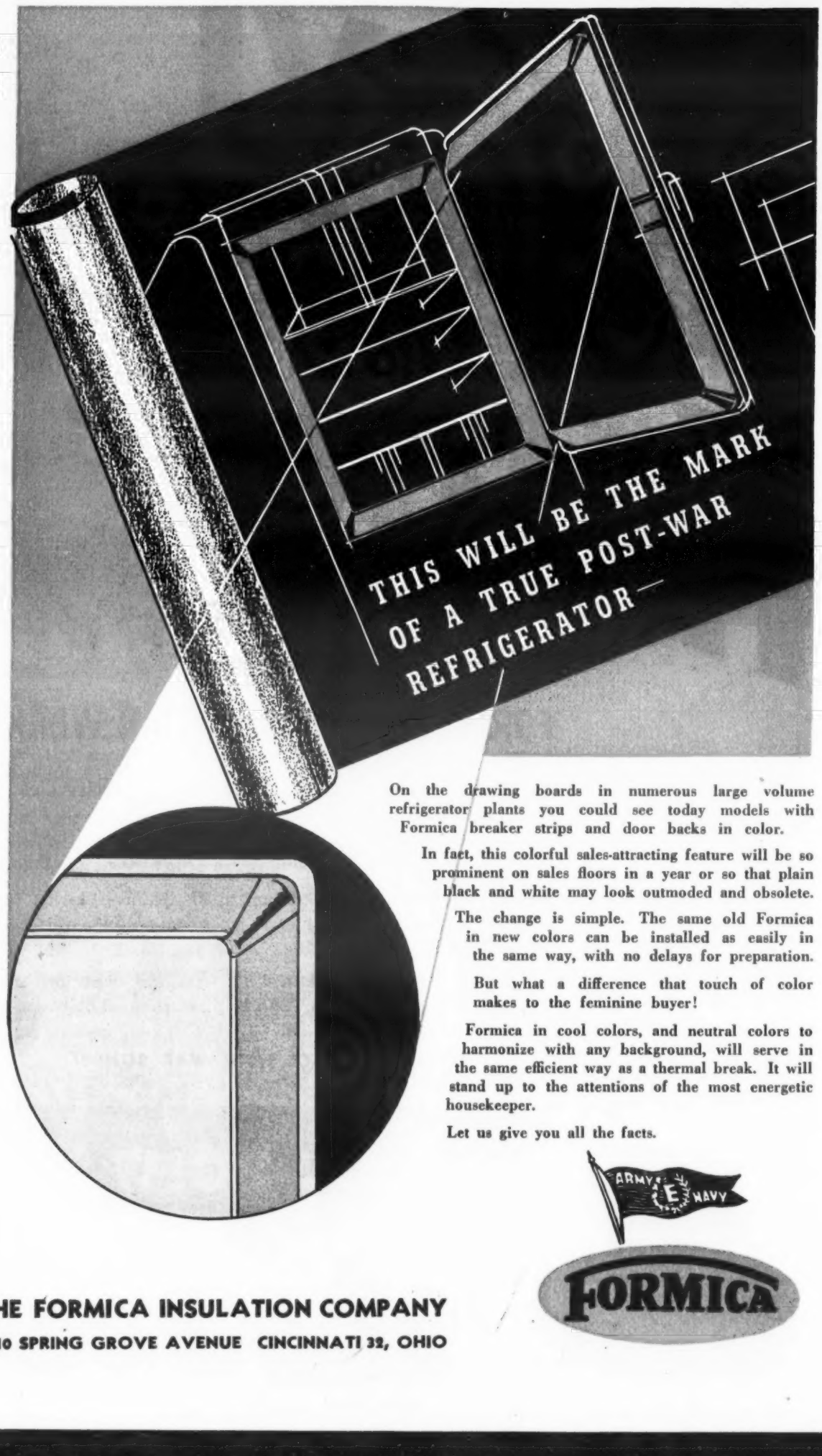
Pacific Northwest Seeks A.S.R.E. Charter

SEATTLE—Petition for a charter for the Pacific Northwest Section of the American Society of Refrigerating Engineers has been filed by 41 refrigeration men in this area, according to Frank W. Knowles, chairman.

An organizational meeting was held by the group on Nov. 17, and Mr. Knowles has announced that all applicants for membership received prior to Dec. 5, if accepted, will be considered as charter members of the new section.

Cunnea Will Manage Wesco Houston Branch

HOUSTON, Tex.—Appointment of Thomas W. Cunnea as branch manager of the Westinghouse Electric Supply Co. office in Houston, Tex., has been announced by C. M. Mackey, southwestern district manager of the company. Mr. Cunnea succeeds Mr. Mackey, who was recently transferred to his new post in Dallas.



On the drawing boards in numerous large volume refrigerator plants you could see today models with Formica breaker strips and door backs in color.

In fact, this colorful sales-attracting feature will be so prominent on sales floors in a year or so that plain black and white may look outmoded and obsolete.

The change is simple. The same old Formica in new colors can be installed as easily in the same way, with no delays for preparation.

But what a difference that touch of color makes to the feminine buyer!

Formica in cool colors, and neutral colors to harmonize with any background, will serve in the same efficient way as a thermal break. It will stand up to the attentions of the most energetic housekeeper.

Let us give you all the facts.

ARMY E NAVY

FORMICA

THE FORMICA INSULATION COMPANY
4610 SPRING GROVE AVENUE CINCINNATI 32, OHIO

TNT and TZ

In the South Pacific . . . passing the ammunition from LCI to shore, a la bucket brigade, these GIs keep a supply line functioning, assuring the success of the landing operation.

On the home front . . . passing the TZ from us to refrigeration service engineers, supply jobbers are doing a great job, helping to keep the refrigerant lines of thousands of units operating, assuring wholesome, healthful food to the country.

At the war fronts, too, TZ is doing a job destroying moisture chemically . . . but that's another story!

"The Moving Dehydrant"

THAWZONE
The PIONEER FLUID DEHYDRANT

HIGHSIDE CHEMICALS CO.
195 Verona Ave.
NEWARK 4, N. J.

Maytag's Branch In Minnesota Subject To Tax, Court Says

ST. PAUL—In a ruling involving the sale of home appliances, Minnesota's Supreme Court held (Nov. 17) that the Minnesota Legislature intended to tax any business of a "foreign" corporation which becomes localized.

Written by Associate Justice Luther W. Youngdahl, the decision was given in a case upholding a deficiency income tax assessment for 1939 by the state tax commission for $4,553.09, which included interest and penalty, against the Maytag Co., of Newton, Iowa. The firm has a branch office in Minneapolis.

"Sales made through, from, or by a branch office within this state are properly taxable, although consumated without the state," the opinion said.

The company paid the deficiency assessment under protest and then filed an application for a refund. State Tax Commissioner G. Howard Spaeth's refusal to grant the refund was upheld by Ramsey County District Court Judge John W. Boerner.

The concern contended sales aggregating $1,485,382 were unlawfully included by the tax commissioner as Minnesota sales. The company had paid a tax of $4,697 as disclosed by its returns.

Maytag, a Delaware corporation, has its principal place of business at Newton, Iowa, where it manufactures washing machines and other appliances. Minnesota, Iowa, the Dakotas, Montana, Nebraska, Wisconsin, and part of Michigan are included in the Minneapolis sales territory of the firm.

Middle Atlantic Jobbers Re-elect Larson, Booth

BALTIMORE—Reelection of O. A. Larson as president and G. W. Booth as secretary for the third successive year marked the annual fall meeting of the Middle Atlantic Refrigeration Supply Jobbers Association held on a recent Sunday at Hotel Belvidere here.

A general discussion on the special task assigned to this group by the national association resulted in the passage of several resolutions for presentation at the coming national meeting in Chicago.

Members present included Parker Leimbach, Mr. Larson, C. V. Hale, G. J. Roche, G. W. Booth, A. R. Tiller, A. H. Holcombe, Mr. McLauchlan, and W. Zuschlag.

North Central States Jobber Group Formed

COLUMBUS, Ohio—A North Central States Group regional association of refrigeration supply jobbers, which will take in jobbers in Ohio, Indiana, Kentucky, Michigan, and Western Pennsylvania has been organized.

The group plans to meet periodically to discuss problems common to jobbers in the region. J. H. Downes of Refrigeration Supplies Co., Cleveland, was named chairman of the Group, and Nedford K. Mason of Mason Supply Co., Columbus, was named secretary.

Next meeting will be held in Detroit sometime in January.

Jobbers who attended the meeting included: J. L. Homan, Allied Parts Co., Dayton; Ray Fischer, J. Geo. Fischer & Sons, Saginaw, Mich.; H. S. McCloud, Williams & Co., Pittsburgh; J. M. Hirsch, J. E. Oliphant Co., Marion, Ohio; S. E. Mohan, Mason Supply Co., Columbus; D. C. Scully, Jos. Woodwell Co., Pittsburgh; Russ K. Duncan, Duncan Supply Co., Indianapolis; Ben Harris, B. F. Harris & Sons, Grand Rapids, Mich.; G. J. Schmitt, Williams & Co., Cleveland; J. H. Downes, Refrigeration Supplies Co., Cleveland; H. W. Holt, William Orr Co., Pittsburgh; Percy G. Hansen, Percy G. Hansen, Akron, Ohio; R. L. Williams and A. C. Beckner, Mideke Supply Co., Oklahoma City; Boyd Evans, Lansemkamp & Co., Indianapolis; Nedford K. Mason, Mason Supply Co., Memphis, Tenn.; J. M. Oberc, J. M. Oberc, Inc., Detroit; Frank Langsenkamp, Columbus.

Tentative Plans Made For Industrial Show

CHICAGO—First national showing of new postwar products may be held next spring in the Coliseum here, if plans of the National Congress of the Presentation of Products of Tomorrow are fulfilled.

A large part of the exposition will be devoted to the widely changed types of home appliances that are now being developed by the larger electrical companies, said backers of the exposition, who expect a million people to view the products on display during the 17-day showing, tentatively scheduled to start March 1.

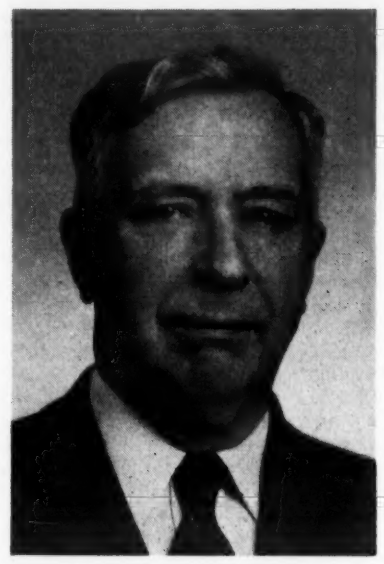
Other sections of the exposition will feature the various new wares made possible by research in the plastics and synthetics fields, home freezer units, dehydrated and other packaged foods processed like those now being used on the fighting fronts, and new medicines.

One exhibit is expected to include a huge television studio in which spectators will witness actual production of television programs. These programs will be picked up in other sections of the building and viewed by other spectators on working samples of television receivers which may be available for public purchase at the time.

Some of the products displayed will probably not yet be in production at the time of the showing.

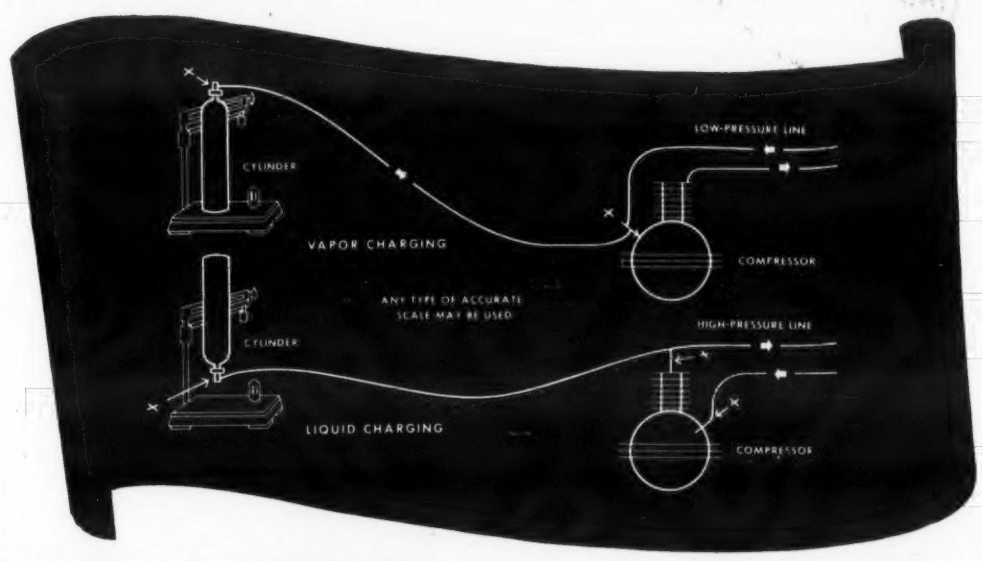
Present plans call for a two-hour exclusive showing for dealers and jobbers every morning of the exposition with the public being admitted until midnight. Canadian and Latin American firms have been invited to exhibit.

Now a 40-Year Veteran



R. M. VAN VLEET
Manager of refrigeration sales for Cutler-Hammer, Inc., he completed 40 years of service with that company on Nov. 30.

MAINTENANCE TIPS
for users of "FREON-12"
No. 4



METHOD OF CHARGING

THE CORRECT WAY of charging a system using "Freon-12" is neither difficult nor complicated. These suggestions will help you:

The cylinder of "Freon-12" should first be weighed (with hood) to determine the gross weight of the cylinder and contents.

The cylinder is next removed from the scale, hood removed and lines connected from cylinder to the system. Valves are opened and the system charged with the required amount of "Freon-12."

CAUTION: *To cause the flow of "Freon-12" into the system, the pressure within the cylinder must be greater than in the system, but not more than 168 lbs. gage.*

When the system is charged, valves closed and cylinder disconnected from the system, the cylinder is reweighed with the hood. Weight of the cylinder subtracted from its original gross weight determines the net weight of the "Freon-12" charged into the system.

NOTE: Before undertaking to charge a refrigerating system, it is recommended that all threaded connections and valve stem packings on the liquid line from cylinder to charging unit be thoroughly checked for possible leaks. A Halide leak detector torch should always be used for this purpose. If leakage is evident, steps should be taken to eliminate the leak. Various types of connections, temperature, pressure and time factors necessarily govern the extent to which losses due to leakage may occur. Maintenance Tips No. 1 in this series describes in detail proper methods of detecting leaks.

In making or breaking the liquid line connections between the cylinder and the system, losses approximating 2.5% of the net content of a 145-lb. cylinder may result. However, the practice of using short connections between valves of the cylinder and system will aid in keeping losses low.

Careful attention to maintenance of refrigerating systems will prolong their life and usefulness. Reprints of this and other Maintenance Tips for users of "Freon-12" will be mailed on request. Write: Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington, Delaware.

● *Please continue to return empty cylinders promptly* ●

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FREON
REG. U. S. PAT. OFF.
safe refrigerants
"Freon" is Kinetic's registered trade mark for its fluorine refrigerants

Filtrine
HIGH EFFICIENCY
WATER COOLERS
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FOR
Plant Cafeterias
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"Manufacturers For Over 40 Years"

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Refrigeration today is performing a vital service by guarding and preserving for future use, priceless food which might otherwise be wasted. Write for literature.
GENERAL REFRIGERATION DIVISION

Kipman
AUTOMATIC REFRIGERATION

WPB Authorities Answer Jobbers' Quiz on Field Material Problems

(Continued from Page 1)

their informal discussion of WPB problems with F. B. Millham, Assistant Director of the General Industrial Equipment Division of WPB, and Gerald W. Weston, Acting Chief, Electrical & Mechanical Repair Section, Service Trades Division, Office of Civilian Requirements.

Mr. Millham explained the necessity for the present WPB policy of denying all current WPB-547 and WPB-541 applications for refrigeration and air conditioning equipment (except parts), declaring that manufacturers were already committed well beyond their capacity on the basis of rated orders on hand.

Furthermore, Mr. Millham said that there was a question as to the right of WPB to determine who should or should not have inventories of such completed equipment.

For the present, he said, dealers and distributors will have to extend ratings received from ultimate consumers of refrigeration equipment to replace equipment sold from their inventories.

WPB is now studying the problem and some amendment to Order L-38 may be made so that dealers and distributors will be permitted to obtain a limited quantity of equipment for inventory.

No changes in Regulation P-126 are contemplated at the present time, but this regulation is scheduled to be revoked after "VE" day, said Mr. Millham.

However, some sort of a "rating band" for certain components of essential refrigeration equipment may be kept in effect after "VE" day to assure production of such needed parts.

Two new officers of the N.R.S.J.A. Ted Glou (left), Central Service Supply Co., Syracuse, vice president, and Harold R. McCombs, McCombs Refrigeration Supply Co., Denver, president.

Mr. Millham next discussed briefly the recently issued Direction 2 to L-38 which places milk coolers under Order L-38, instead of under the farm machinery order.

A farmer can now sign his own certification of need for a milk cooler, which, however, carries no rating. The manufacturer of milk coolers can sell through the dealer level without a rating.

Millham Hopeful on 'Freon'

The War Production Board official expressed the belief that there would be maximum production of "Freon-12" by the first quarter of 1945 and consequently the likelihood of the revocation by Jan. 1, of the "forced conversion to another type of refrigerant" provision of Order M-28. Further, it may be possible to relax the restrictions on the use of "Freon-12" for air conditioning systems by April, 1945, if sufficient anhydrous hydrofluoric acid and carbon tetrachloride are available in the quantities now anticipated.

However, Order M-28 will otherwise be continued in some form so as to continue the allocation and standby charge provisions to protect military requirements and to avoid excessive inventories.

It is also considered probable that the production of the low temperature refrigerant "Freon-22" will be great enough by the first of the year to permit removal of restrictions on the use of this refrigerant along the same lines and at the same time as those controlling "Freon-12."

Mr. Millham declared that permission had been obtained to uprate $300,000 of refrigeration repair parts to AA-1 for the fourth quarter. The remaining orders for parts will be given an AA-2X rating.

Mr. Weston told about some of the activities of the Electrical and Mechanical Repair Section of the OCR Service Trades Division. Main accomplishments of this group has been the aids given to repairmen in the form of the CMP-9A regulation (which relieved the repairman of the necessity of using PD-1A's and CMP-4). Other moves have been aimed at the simplication of the salvage provisions of the various repair part orders, obtaining 50% solder for refrigeration repair work, eliminating restrictions on the use of fiber shipping containers for repair parts, and the encouragement of veterans employment in the service trades.

"Corridor conferences" were in full sway at the N.R.S.J.A. Chicago meeting when the cameraman took this picture. Group at the left in earnest discussion includes (from left to right) Allan Cody, Standard Brass Mfg. Co., Houston, Tex.; R. K. Duncan, Duncan Supply Co., Indianapolis; K. B. "Spike" Thorndike, Detroit Lubricator Co.; and Ed Hunter, Duncan Supply Co. G. W. "Jerry" Weston (center), Acting Chief of the Electrical Repair Section, seems startled at the way Joe Krall (extreme right) is expostulating to George Roche of Parks & Hull Co., Baltimore.

On Orders for Inventory

"If you'll apply every 30 days for inventories of parts under the inventory rating orders, you'll be more assured of a continuing supply of parts than if you do it every three months or so," Mr. Weston told the parts jobbers.

"We have had practically no complaints from those who apply on the 30-day basis, but we have had many from those who hold up their applications for a longer time."

Among the questions raised at this session with the WPB men was "how will goods made under 'spot authorization' programs get into the hands of wholesalers and dealers."

This has not yet been fully settled, Mr. Millham declared. Possibly they will be sold under the rating procedure set up for the industry under which the product falls, or possibly they may be distributed without any priority ratings at all.

The question was raised as to why the type of rating setup used by wholesalers in the plumbing and heating supply field under Order L-79, which permits the wholesaler to apply the automatic rating to items he stocks, could not be used in the refrigeration industry.

Mr. Millham saw some merit in this idea, but also pointed out two major problems:

(1) the difficulty of getting any kind of an accurate rating pattern based on actual needs in the field and

(2) the question of whether or not the supply jobber would want to take the entire responsibility of seeing that all of his automatically rated supplies were sold for repair or replacement purposes only.

If a condensing unit is obtained as a component part for the production of self-contained refrigerated fixtures authorized for production by WPB, can any surplus of such components which the producer may have obtained under proper CMP authorization be sold separately to the trade by that producer, Mr. Millham was asked.

"No" was the answer. Such components were authorized only for incorporation in the self-contained fixtures and there should be no surplus unless the producer failed to complete the scheduled number of fixtures authorized, in which case the components should be held for the next production run of fixtures. It should be pointed out, however, that under CMP regulations a producer is allowed 10% to "round out his line" and the particular instance which provoked this action may have been as a result of this provision.

When some jobbers complained of difficulties in obtaining "Freon-12" Mr. Millham declared that in any case where a jobber was having difficulty in getting "Freon-12" for any purpose rated essential, to contact R. O. Miller of the "Freon" Section.

Rema's Meeting Plans

A. B. Schellenberg, president of Alco Valve Co., and president of Refrigeration Equipment Manufacturers Association, told the jobbers of some of the things that had transpired at the recent Rema meeting and present the manufacturers' viewpoint on some of the jobber activities and thinking.

Plans are being made, Mr. Schellenberg said, for a joint Rema-N.R.S.J.A. meeting next spring. This will be a "conference type" meeting with no afternoon or luncheon sessions planed, and all arrangements pointing towards facilitating conferences between individual jobbers and manufacturers.

On the mater of jobber-manufacturer relations, the Rema president discussed two principal points:

(1) The increasing number of meetings of regional and local jobber

(Concluded on Page 15, Column 1)

Austin Jones, the Kerotest Mfg. Co. camera fan who took this picture, caught a fellow camera fan Irving Alter (far left) at work when he took this picture. Those on the settee are G. W. Weston of the OCR, H. W. Small and E. F. King of the Thermal Co., St. Paul; K. G. Wight, K & M Supply Co., Tulsa, Okla., and Robert Anderson, Imperial Brass Mfg. Co.

Dependable

CURTIS CONDENSING UNITS
Refrigerate This Portable Navy Tropical "Reefer" Plant

These all-steel refrigerator bodies and trailers were built by the Herman Body Company of St. Louis to meet U. S. Navy requirements for use under the most severe operating conditions found at advanced tropical bases. An inside temperature of 0°F. must be maintained with an outside temperature of 120°F.

The heart of the refrigeration system is a CURTIS pressure lubricated low-temperature type Condensing Unit, especially designed for truck service.

These portable cold storage plants must provide a rugged, trouble-free unit for carrying meat, foods, and other perishable supplies. They are a product of the combined engineering experience of the Herman Body Company and Curtis Refrigerating Machine Company.

The selection of Curtis Refrigeration Equipment for this Navy "Reefer" is further proof of the efficient, economical dependability of Curtis units—for use where only one standard of performance prevails—*operate or else!*

CURTIS REFRIGERATING MACHINE DIVISION of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis 20, Missouri

George F. Taubeneck, editor and publisher of Air Conditioning & Refrigeration News, gets a big laugh out of one of his own jokes, and even raises some smiles on the faces of the other occupants at the speaker's table at the dinner held in conjunction with the recent N.R.S.J.A. meeting in Chicago. Left to right they are: H. W. Small, retiring president of the association; H. R. McCombs, incoming president; Ted Glou, newly elected vice president, and Sterling Smith of Mills Industries, formerly Chief of the WPB Refrigeration Section. Mr. Smith represented the Standard Refrigeration Compressor Association.

Jobber's Future Is Debated at Meeting

(Concluded from Page 14, Column 5)

groups is causing the manufacturers concern because of invitations issued to the manufacturers' local or district representatives, who are sometimes put in an embarrassing position on matters of national policy. Rema prefers to have matters of jobber-manufacturer relationships, where they involve overall policy, handled between the national organizations.

(2) Relative to the dilemma of the jobber "Must I take on more and diversified lines to get adequate sales volume postwar," Mr. Schellenberg had this to say:

"If you want to broaden your business for the purposes of expansion, that's one thing, but if you're doing it because you are afraid that your business will drop off, that's thinking along the wrong lines.

"All the signs point to an upsurge in sales of all types of refrigeration equipment and parts after the war. Manufacturers certainly don't like to see any tendency now towards a pessimistic feeling about the future of the industry."

Telling the N.R.S.J.A. members that "the future of jobber-type distribution rests in your hands," the Rema president outlined some of the responsibilities of a jobber who was betting his future on the industry:

(1) He must think of himself first as being a part of the refrigeration and air conditioning industry, and to help that industry do a successful job of competing with other industries.

(2) His business must be run cleanly. He can't afford to handle "gyp" lines.

(3) He should not be too hasty in taking on new lines, but on the other hand he should not pass up those which offer an opportunity for real service to his customers.

(4) He must do a good job of representing the manufacturer, and make an effort to pass along the various sales and service helps to his customers.

(5) There is a real chance for the jobber to render service to the industry in the matter of field education of his customers on new products and new methods.

Paul Sullivan, secretary of the Commercial Refrigerator Manufacturers Association (producers of refrigerated fixtures) spoke informally to the jobbers at the Tuesday morning session.

He said that the commercial refrigerator makers were for the most part not looking for "greener pastures" postwar in the form of home freezers or other new items, but believe that they will have very strong markets for the type of product they were making before the war.

These manufacturers have lost 40% of their distribution outlets during the war, and are looking for new outlets, Mr. Sullivan declared, and he said that they are interested in the trend of jobber-servicemen developments in the matter of distribution of refrigeration items.

Mr. Sullivan also declared that recent surveys have indicated that 75,000 new food markets will be opened by war veterans alone following the end of the war.

H. T. McDermott, national secretary of the Refrigeration Service Engineers Society, spoke on the subject "What Are the Plans of Your Customer—the Service Engineer—For Postwar Business," presenting figures on a recent survey made among the R.S.E.S. membership. (This is covered in the story on the Rema meeting).

However, Mr. McDermott also reported on special questions asked of the refrigeration service engineers relative to what they thought of the parts jobber handling lines of "package equipment." Following are the questions and "score" of the answers:

"1. Should independent refrigeration supply jobbers handle for unfranchised sales the major equipment lines, including but not limited to such items as freezer chests, window conditioners, domestic refrigerators, self-contained air conditioners, display cases, coolers, etc.?"

Yes	320
No	286
No Answer	10

"2. Should the jobbers provide for service during the guarantee period to those consumers who were unable to secure such service from dealers through whom the original purchase was made? This refers to cases where a dealer may have discontinued business while the equipment remains in the consumer's hands under guarantee. A jobber may call another dealer to give the service, but, of course, would have to pay for the necessary work. The jobber might send a serviceman from his own organization to protect the name of the product and the consumer."

Answer:

(a) Yes, if work is done by another dealer	170
(b) Yes, if work is done by jobber or dealer	219
(c) No, in either event	196
(d) No answer	31

"Many of those who answered this question had some added comment to make about it," said Mr. McDermott, "and while a number of them said that they approved of the jobber handling such items if he used his regular channels of distribution, but these comments were very definitely against the jobber maintaining his own service department."

Harry Alter (left), president of the Harry Alter Co., with H. T. McDermott, who recently returned to take up his work as secretary of the Refrigeration Service Engineers Society after serving 13 months in the southwest Pacific theater of war with a U. S. Army Evacuation Hospital Unit.

Jim Strachan (left), who heads up Weatherhead's refrigeration sales, gets some close attention from two southwestern jobbers, Joseph Mideke (center), Mideke Supply Co., Oklahoma City, and Lou Snell, Snell Refrigeration Supply Co., Dallas.

VIRGINIA Refrigerants

TESTED PURITY for SERVICE SURETY

"EXTRA DRY ESOTOO", "V-METH-L" AND METHYLENE CHLORIDE

AGENTS FOR KINETIC'S "FREON-12"—AND "FREON-22"

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FIRST step in making good, tight joints is to make sure that the tubing is cut off correctly. Crooked cuts, egg-shaping of tubing, ragged cuts and excessive burr — evils resulting from poor cutting methods — all spell trouble in tubing connection work.

That is why a good tube cutter has such an important place in every tool kit. Not only will a good tube cutter make clean, square cuts in a minimum of time, but properly used it leaves little burr and no ragged edges . . . . features which mean so much in making tight flare and solder joints.

Today, with every man-hour precious, it is doubly important that when it is necessary to buy tube cutting tools, you buy the best . . . . tools that are well-designed, well-made, durable and make possible faster and better work. Imperial makes tools like this—and no others. See your jobber.

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● You cannot buy a better tubing cutter than this Imperial No. 174-F. Makes clean, right-angle cuts. Leaves no burrs or chips to clog line. Tubing rolls on two rollers, reducing friction and speeding cutting. Has exclusive flare cut-off groove for removing a damaged flare from tubing with minimum waste. Reamer attached. Cuts ⅛" to ¾" O.D. tubing.

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● Nos. 184-F, 185-F Sawing Vises. Especially serviceable for cutting larger sizes of tubing. Used with any standard hacksaw to make perfect, right-angle cuts. Tubing will not be crushed or marred. No. 184-F takes 3/16" to 2 3/8" O.D. tubing. No. 185-F takes 1½" to 4" O.D. tubing.

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OH,OH! BIG MOUTH'S DIGNITY HAS BEEN WOUNDED AGAIN. IF YOU SAY GOOD MORNING TO THE BIG BOSS, YOU GOT TO DO IT THROUGH HIM.
I'D LIKE TO GO OVER HIS HEAD AND DROP A BRICK ON IT. HE THINKS HE'S BIG STUFF···BUT SO IS A LOAD OF HAY!
"AN' I KNOW FOR A FACT THAT ALL THE G.M. SAID WAS THAT THIS GANG WAS DOING A GOOD JOB.
HE SPENDS SO MUCH TIME, DEFENDING HIS TITLE···HE DON'T DO ANY WORK···
JIMMY HATLO
3RD ASST. MGR.
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LISTENING TO THE TOUCHY STRAW BOSS WAX INDIGNANT AT A SLIGHT SLIGHT··
Thanx To "FED UP AND HOW" CHICAGO, ILL.

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C.I.O. Prepares To Take Over the Country

HISTORY was made in Chicago last week, but few Americans took much note of it. Absorbed in the climax of the war, in the year-end business whirl, in the cigarette shortage, in plans for the New Year, and whatnot, most of us failed to grasp the true significance of proceedings at the C.I.O. convention in the Windy City.

Some of us, in Chicago at that time for the National Refrigeration Supply Jobbers Association meeting, were fortunate—or unfortunate—enough to get a look-in on these ominous sessions, however, and what we saw was almost frightening.

The C.I.O. boys are feeling their political oats—and how! They believe (and, in fact, they were told by Henry Wallace and by Eleanor) that they re-elected Roosevelt for the Fourth Term. They mean to cash in on that credit during the next four years.

But that isn't all. Not even half. Speaker after speaker got up to tell a cheering audience something like this:

"We've just started in this vote-getting business. We're preparing now to put the men we want in Congress in 1946, and to win the 1948 presidential election. We have already the most potent political organization this country has ever seen, but the country ain't seen nothin' yet. Now that we know how to do it, watch our smoke!"

Resolutions were passed, and plans laid, to organize the following groups under the C.I.O. banner:

(1) Millions of returning servicemen

(2) Millions of farmers

(3) Millions of government employes.

While everybody may agree that the C.I.O. won't have an easy time organizing—even politically—the farmers and veterans, they do have something in the government employes category. There are millions of them now, and their numbers are sure to be augmented during the Fourth Term. What a voting bloc they will make, and what a political machine!

At present government employes and office holders are prevented from electioneering by the Hatch Act. But one of the next C.I.O. objectives, as formalized in a resolution, is *repeal of the Hatch Act!*

Vice President Wallace was introduced to the convention as "our candidate for President in 1948." His ovation was probably heard in San Francisco, and very nearly brought out the riot squad. After this warming reception, Mr. Wallace calmly told the delegates:

"If business can't provide 60,000,000 jobs during the next four years, we'll have to have a socialistic form of government in the United States."

That came, gentlemen, from the man this formidable and growing political machine is preparing to elect President in 1948!

Don't shrug all this off with: "It can't happen here!" Organization will beat disorganization and helpless wringing of the hands every time. Their committees are starting to work for 1948 *right now.*

What are we going to do?

Smith Appointed York Advertising Manager

J. DONALD SMITH

* * *

YORK, Pa.—J. Donald Smith. manager of the sales promotion department of the York Corp., has been appointed advertising manager effective immediately, S. E. Lauer, president of the company announced. In his new job, Mr. Smith will have charge of all sales promotion, publicity and advertising activities of York refrigeration and air conditioning.

Mr. Smith has been with the York Corp. for nearly 20 years. He began work in the company's erecting department and later was assigned to the architectural and construction division of the engineering department. In 1930, he helped in the organization of York's equipment and supplies department which embraced the publicity and sales promotion activities of the corporation.

From then to 1942, Mr. Smith was assistant manager of this department leaving it in that year to aid the management in the production of vital army ordnance. He returned to promotion work again in 1943 and became manager of the sales promotion department.

Mr. Smith is president of the Susquehanna Industrial Advertising Association, a director of the National Industrial Advertising Association and past president of the Mason-Dixon Industrial Advertising Association. He is also a member of the Direct Mail Advertising Association as well as the Magazine Editors' Institute.

Rexinger Takes Sales Post With McGraw Electric

ELGIN, Ill.—Scott C. Rexinger has been appointed sales manager of the commercial appliance department, Toastmaster Products division, McGraw Electric Co. here. He came to the company in 1938, formerly having been Middle West district manager for Apex Electrical Mfg. Co.

NATIONALLY ENDORSED

Pad is adjustable to all makes and sizes of refrigerator cabinets; thoroughly protects finish of cabinet from scratches and mars during moving; easily and quickly put on or off; sturdy, lasting construction; easily pays for itself in a short time. Price $11.75 each.

Attractive lettering of your name on pad at $2.00 each extra.

For carrying your refrigerator more safely and easily, use the Mastercraft Adjustable Carrying Harness which is a separate unit from the pad and priced at $3.50 each.

Write for complete folder and prices on pads for refrigerators, washers, ironers, ranges, radios; also furniture pads and protective covers. . . . All prices subject to change without notice.

BEARSE MANUFACTURING CO.
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3815-3825 Cortland St., Chicago 47, Illinois

L. D. Stull Joins Apex

CLEVELAND — L. D. Stull, formerly with Frigidaire Division, General Motors Corp., has been appointed western division sales manager for Apex Electrical Mfg. Co., according to A. C. Scott, vice president in charge of sales. Mr. Stull, with offices in the Furniture Mart Bldg., San Francisco, will direct sales in 11 western states.

Van Riper to Buy for Wieboldt

CHICAGO—W. H. Van Riper, former sales promotion and advertising manager of Cribben & Sexton here, has been named buyer of major appliances and radios for Wieboldt Stores, Inc.

Crosley Selects Karmen As Administration Head

CINCINNATI — Appointment of L. J. Karmen as director of administration, the manufacturing division of Crosley Corp., has just been announced by R. C. Cosgrove, vice president and general manager.

During the past 19 years Mr. Karmen has served in various phases of industry. Before his appointment with Crosley he was for three and a half years with Booz, Allen & Hamilton, management engineers of Chicago and New York.

Prior to that he was associated with Montgomery Ward & Co. for 13 years, spending several years in each phase of the company's operations.

W. D. Baker to Greusel

MILWAUKEE, Wis.—W. D. "Bill" Baker, for the past two years a salvage executive of the War Production Board, has joined Greusel Distributing Corp here as sales manager, announces Frank W. Greusel, president.

Mr. Baker has been identified with the appliance industry in the Wisconsin market since 1927.

Cohen Joins Philco Outlet

PHILADELPHIA—David H. Cohen has joined the sales organization of Philco Distributors, Inc., Philadelphia division, in the capacity of salesman calling on dealers in the metropolitan Philadelphia area.

Lippman Resumes Former Post at Westinghouse

EAST SPRINGFIELD, Mass. — Westinghouse Electric & Mfg. Co. announced recently the re-appointment of W. O. Lippman as manager of the company's Electric Appliance Division Works, East Springfield, Mass., a position he relinquished in April, 1943, to become manager of the Westinghouse Canton, Ohio, Ordnance Division.

Mr. Lippman will retain his Ordnance Division post and will divide his time between the two plants. In his absence from the Canton plant, J. C. Smith, newly appointed manager of manufacturing there, will be responsible for the operation of the Division.

Dependability doesn't happen...

IT'S *BUILT INTO* EVERY A-P VALVE

NEW A-P MODEL 204
AUTOMATIC EXPANSION VALVE

A new design of a famous and popular A-P Valve, the new A-P Model 204 AUTOMATIC Expansion Valve has many new features for improved operation on domestic refrigerators, beverage coolers, serum cabinets, and similar applications. One of these new features is the moisture-proof metal cap, providing absolutely tight seal against air and moisture for protection against freeze-up in the head, yet offering ready access to the adjusting knob.

Compact, small in size, precision-built throughout, sturdy, sensitive and leakproof, Model 204 has an adjustable range of from 15" vacuum to 35 lbs. pressure. Rated at ¼ ton Freon and ½ ton Methyl Chloride and Sulphur Dioxide, it is designed for long-life, dependable service. For further details, write for Bulletin No. 407A.

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REFRIGERANT VALVES
STOCKED AND SOLD BY PROGRESSIVE REFRIGERATION JOBBERS EVERYWHERE —
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Recent Discoveries Indicate Broad Future For Heavy Industrial Refrigeration

Industrial Applications Cover Wide Field, E. T. Murphy Shows in His Analysis

EDITOR'S NOTE: The following article, a continuation from the Nov. 20 issue of the NEWS, presents an analysis of the market for heavy industrial refrigeration, which was prepared by E. T. Murphy of Carrier Corp. Mr. Murphy points out the wide uses of heavy equipment in industrial processing today and indicates that even more applications of refrigeration are likely after the war.

By E. T. Murphy, Senior Vice President, Carrier Corp.*

Heavy Industrial Refrigeration

In review of refrigeration, per se, it is apparent that the fields of application of refrigeration to industry are already vast and new fields are constantly being discovered and developed. The rates of reaction, equilibrium, and yields in industrial processes are influenced and controlled to an important degree by temperature control as well as by pressures, catalysts, and concentration. The fundamental applications of refrigeration to general industry may be summarized as follows:

a. *Control of Biological Reactions.* This phase deals with the retardation or acceleration of organic growth such as mold or spore—commonly recognized as fermentation. Applications are found in the food and pharmaceutical industries.

b. *Precipitation of Solids, and Extraction Processes.* The reduction of fats, waxes, crystals, etc., from liquids under atmospheric or subatmospheric pressures are regularly encountered in the chemical industries.

c. *Condensation of Gases and Vapors.* This broad application is found in the manufacture of chlorine, alcohol, carbon dioxide, natural gases, etc. The primary industries involved are the chemical and petroleum groups.

d. *Control of Exothermic Reactions.* This aspect of refrigeration application covers the cooling of chemical solutions having components which when united generate heat. The union of styrene and butadiene is an example. The marketing field is in the rubber, pharmaceutical, and chemical industries.

e. *Control of Physical Reactions.* This phase includes the control of the more purely physical structure, as in metallurgy, synthetic and natural rubber, and gas storage. The chemical, synthetics, metals, and petroleum industries provide the major markets.

f. *General Industrial Fluid Cooling.* This category includes the broad miscellaneous applications, such as water chilling, oil cooling, moderate and low temperature brine chilling, to quenching oil coolers and coolant or cutting oil cooling. These general systems may be central station or "house brine," or individual units for specific purposes. Usage is found in varying degrees in practically all industry.

g. *Beverage Cooling.* This classification applies to the cooling of beer and carbonated beverages and is largely confined to these industries.

h. *Ice Making.* This covers the conventional ice plant for commercial and industrial requirements.

As in the case of industrial air conditioning, there is opportunity for overlap of these various classifications. There is also the problem of exact definition in attempting to differentiate between air conditioning and refrigeration in certain industrial applications. One example is given in the packing and processed foods industry. Cold diffusers, usually thought of as low temperature air conditioning units, are attaining increasing acceptance in this market. However, the majority of the people in this industry think in terms of refrigeration rather than air conditioning. Therefore, to follow customer field practice, this type of application is placed in the refrigeration group along with their pipe coil installations. Other borderline applications of cold diffusers, such as fur storage, fruit and vegetable storage, florist boxes, etc., are considered as industrial air conditioning.

Refrigeration Equipment Requirements

Refrigerating equipment for industrial refrigeration purposes must cover an even wider range of conditions and specifications than refrigeration for industrial air conditioning—if industry is to be satisfactorily served. The following summary of major requirements is somewhat parallel to the specification of refrigeration for air conditioning, but with certain important variations.

In reading the following, it must be recognized and appreciated that, generally speaking, the "tons" involved in the broadest section of the air conditioning market consider a temperature range above 32° F., whereas "tons" in industrial refrigeration imply temperature levels below freezing, in the major market. This has a direct bearing on machine size, capacity, and horsepower.

a. Temperature specifications range from normal requirements of 60° F. for water chilling purposes to -250° F. for condensing natural gases. As stated above, the average temperature level is lower than the average level for air conditioning application.

b. Tonnage in these temperature ranges will vary from fractions of a ton in laboratory or pilot installations to projects involving thousands of tons.

c. The equipment must be suitable for or adaptable to the use of a wide range of refrigerants, including F-11, F-12, F-22, F-114, ammonia, propane, etc.

d. The equipment must meet the design, the physical and materials specifications, and the manufacturing techniques as provided by recognized code and industry authorities, such as A.S.M.E., A.P.I., and A.S.R.E.—as they may apply in the several markets. This applies not only to refrigerating equipment, but particularly to coolers, condensers, heat exchangers, and other auxiliary apparatus. This requirement is of far more importance in the pure refrigeration field than in industrial air conditioning.

e. Dependability is the most important requirement in the industrial refrigeration field. Continuous service brought about by dependable equipment is essential to efficient, low-cost industrial production.

f. Parallel to the continuous service requirement is the need for the manufacturer's servicing facilities, which must be available immediately upon call. The equipment manufacturer must be prepared to supply parts and supervising personnel and mechanics when and where required.

Character of Market

The market for industrial refrigeration may be divided into four major classifications, each of which is divided into numerous subdivisions.

Food Processing and Preservation

This is the largest and most extensive market for refrigeration and includes the meat packing and processing, dairy, egg and poultry, fish, fruit and vegetable, bakery products, candy and confectionery, beverage, frozen food, and cold storage warehouse industries. These industries were among the first by necessity to accept the widespread use of refrigeration. While conservative in their adoption of new types of equipment, comparatively recent technological advancement in the methods of quick freezing, fortification of foods, etc., will force an expanding utilization of refrigeration by these industries.

Chemicals

The field of industrial refrigeration is a close second to that of the foods group, but by no means as well confined in regard to equipment sizes or specifications. This group includes the base chemical industries, such as sulphur, carbonates, phosphates, coal tar, salt, and similar materials and their voluminous derivatives, and covers manufacturers and processors of rubber (natural and synthetic), nylon, rayon, plastics, cosmetics, pharmaceuticals, etc. The petroleum and gasoline industries are also in this class.

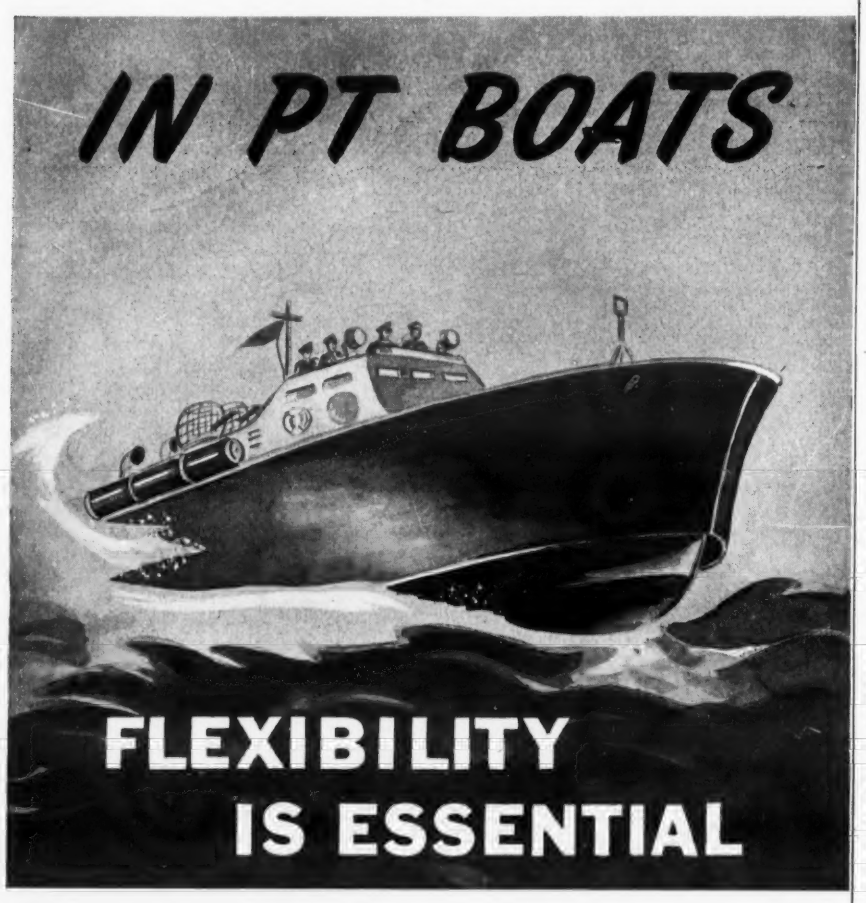
Technological advancement has been so rapid in these industries that no definite pattern can be determined for refrigeration, but an increasing demand for equipment is very much in evidence. The engineers and chemists controlling these businesses and processes are by nature revolutionary and imaginative in process design, although conservative in their selection of equipment for use in these processes.

General Manufacturing

General manufacturing is a miscellaneous classification and includes the as yet largely unexplored and undeveloped fields (for refrigeration) of powder metallurgy, metal work-

(Concluded on Page 19, Column 1)

*Presented at the meeting of the Air Conditioning & Refrigerating Machinery Association, Nov. 2 and 3, at Hot Springs, Va.



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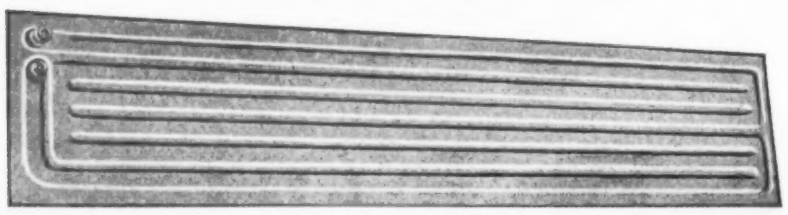
* *No intermediate factor between refrigerant and contact surface.*



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REMOVING PITCH FROM GROUND LENSES has no connection with food...

But the application of refrigeration is vital to both! Removing the pitch with which the lens is cemented to the grinding tool has been a long standing problem of lens, optical and camera manufacturers. Recent experience has proved that the most efficient and economical method of accomplishing it, without damaging the lens, is to chill to a low temperature, whereupon the pitch drops away from the lens freely and completely. No manual labor is involved and the time element is minimized, an important factor in war production.

Similarly, modern commercial refrigeration has reduced food spoilage greatly with the least manual labor possible.

Brunner commercial refrigeration units are aiding in quicker separation of the pitch that holds lenses to the grinding tools and is a vital necessity in the preservation of our food supplies. The lessons we have learned in the production of condensing units for many refrigeration applications, essential to the winning of the war, will be applied to good advantage in the production of the most modern peacetime equipment.

The application of commercial or industrial refrigeration is no longer guesswork. Brunner has produced refrigeration condensing units for 36 years. Our engineers are experts. Why not consult them on any temperature or humidity problem?

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For over 36 years the Symbol of Quality

Increased Use of Low Temperature Refrigeration Is Predicted By Murphy

(Concluded from Page 18, Column 5)

ing, coolant cooling, oil quenching, plastic fabrication, electronics manufacture, etc. Markets for certain small equipment have appeared and there is opportunity for further disclosures for the need of refrigeration, but the field as a whole has not exhibited any strong potential as an immediate market for refrigeration equipment.

Ice Manufacture

This industry is too well known to warrant extensive discussion. Reduction rather than expansion will undoubtedly continue to a certain point of stabilization. The few new projects will be largely limited to specific purposes, such as serving transportation with flake or cracked ice.

Size and Trend

Although the statistical data on the use of refrigeration in industry are somewhat more satisfactory than those available for air conditioning applications, they are far from complete and are largely confined to the food industry.

Food Processing and Preservation

Statistics are varied in this industry, as no single agency has compiled complete data embracing the entire field. Information which has been published is not entirely satisfactory for our specific purposes. However, reasonably accurate conclusions may be drawn from the material available and forecasts may be made. As we are interested particularly in heavy industrial refrigeration equipment, the forecast is limited to equipment having a capacity of over 25 tons (nominal average of 5° suction temperature) and a minimum of 50 hp. drives.

The following figures obtained from a recent survey of 247 meat packing plants in five states provide a basis of projection of installed machine size for this segment of the industry.

The total capacities of 5,505 refrigerating compressors used by 1,490 meat packing plants and 748 sausage plants are:

819 compressors of 10 tons or less.....	14.9%
1,132 compressors of 11 tons to 20 tons....	20.6%
1,050 compressors of 21 tons to 50 tons....	19.1%
906 compressors of 51 tons to 100 tons...	16.4%
1,598 compressors of over 100 tons.....	29.0%

This survey, projected upon a national basis, indicates that over 60% of the compressors used in this division of the food industry fall in the heavy machinery classification.

A government survey, made primarily for the purpose of determining materials for refrigeration requirements of the general foods industries, forms a basis for the following data and conclusions.

The number of plants requiring refrigerating machines of a capacity of 25 tons or above—and drivers of 50 hp. and above—exceeds 6,000.

The total investment in refrigeration equipment, including auxiliaries such as drivers, pipe coils, traps, receivers, valves, fittings and controls was in excess of $150,000,000. Of this total, the *yearly replacement value* is $10,000,000. As this figure includes auxiliaries and labor of installation, and as further breakdown of equipment values is unavailable, it is conservatively estimated that the replacement value of large compressors, condensers, and evaporators for the food industries is in excess of $1,250,000 per year.

It is recognized that expansion will be necessary for certain sections of this industry. The greatest expansion, and hence new market, for refrigeration is expected in the frozen foods field. It is predicted that this will grow five-fold in the next 10 years and at that rate of expansion a market in excess of $225,000 per year, excluding auxiliaries, will be open to the manufacturers of heavy refrigeration equipment.

Expansion of practically all divisions of this industry is predicted in varying degrees. No exact information or reliable data are available for accurate market forecast purposes. However, a conservative estimate of $350,000 per year may be more than realized.

Two distinct trends are evident which apply generally to the various industries in this over-all classification. There is a marked tendency, particularly in the meat group, toward new plants located more closely to population centers for the purpose of improving distribution. This will provide markets for new equipment. The second unmistakable trend is toward multiple compressors in the 50 to 200-ton range, which will displace the 300 to 600-ton reciprocating units.

Chemicals

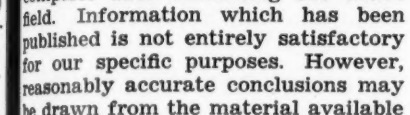
Attempts have been made in the past by various agencies to determine the then present investment in refrigeration equipment, and the potential volume. These have been unsuccessful, due to the fact that the industry as a whole is extremely secretive concerning individual processes, and also because of the breadth of application. Another important factor contributing to such a statistical review is the speed with which technological changes are affecting both processes and equipment. The fact that the chemical industries have increased their requirements for refrigeration, particularly within the last 15 years, and that these needs have accelerated during this period, is well known.

The production of chemicals for war purposes has increased the volume of sales to this industry, and this high rate of purchase is not expected to continue very far into the postwar era. A reasonable estimate of the average yearly potential market for heavy refrigeration machinery, for the first five postwar years, is placed at $1,750,000.

The trend in this market is toward the purchase of refrigeration units averaging from 50 to 125 tons each for low and high temperature applications. There will be some exceptions to this rule, but the general nature of the product and the processes demands full or partial stand-by equipment. A second distinct trend is in the application of refrigeration at lower temperature levels, particularly as the chemical group enters into the hydro-carbon field. The significance of this is that the refrigeration industry will be charged with the responsibility of continued research in the low temperature fields, with particular reference to low side equipment.

General Manufacturing

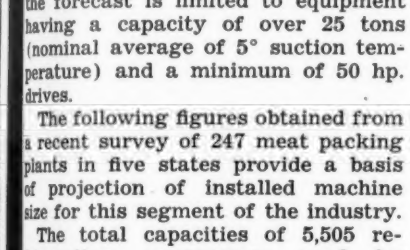
This category includes industries of a miscellaneous character and, excepting for a recent war-encouraged trend toward the application of refrigeration, there is insufficient datum or evidence for other than a pure guess as to the future volume of heavy refrigeration machinery. An average rate of increase of $250,000 per year for the first five years of unrestricted purchase is forecast.

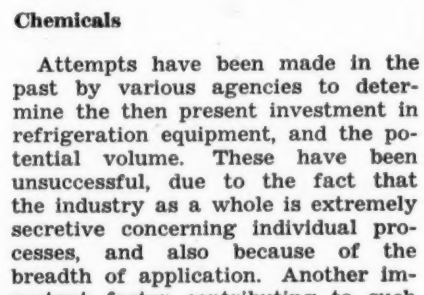


WAR INDUSTRIES NEED REFRIGERATION

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

GENERAL REFRIGERATION DIVISION





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It takes the Niagara DUO-PASS to ASSURE the Advantages of evaporative condensing!

● Users of the Niagara AERO EVAPORATIVE CONDENSER have saved up to 35% of power while increasing useful refrigerator capacity obtained without increasing compressor equipment. This has been achieved by reducing compressor head pressure.

Only the Niagara DUO-PASS Aero Condenser assures these gains because only the Niagara Condenser has the patented DUO-PASS which lowers temperatures so that no deposit of salts or scale is precipitated on the condenser tubes. This improvement secures the full capacity of the evaporative condenser throughout its long life.

The Niagara DUO-PASS AERO CONDENSER also saves the user the cost of 95% of his condensing water and the installation expense of water-handling equipment. For complete information and records of users' savings, write to

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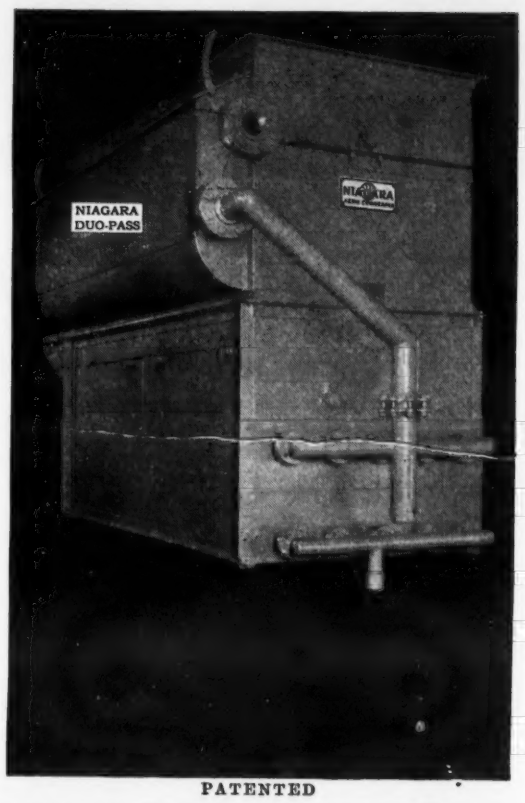

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"You've got an edge ...when you Sell Servel*

*Servel's new "Supermetic" condensing units will serve dealers and fixture manufacturers in every vital field

1. STORE FIXTURES
2. MILK COOLERS
3. HOME LOCKERS
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5. VENDING MACHINES
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9. INDUSTRIAL COOLING
10. VEHICLE REFRIGERATION

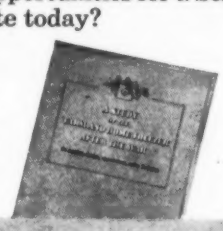
"YES, SIR, when you mention 'Servel' to a condensing unit prospect, you've got an edge on competition right from the start. You see, most people know Servel has been making mighty good condensing units for a long time now. They've found out that Servel units are up-to-the-minute in engineering and design, that they're sturdy and reliable.

"And you've got an edge when it comes to talking costs, too. There's a Servel unit with the right capacity for almost any job. And that means customers don't have to pay for excess capacity, or risk breakdowns by overloading.

"What's more, you'll keep that edge after the war, too. Those new hermetically sealed Supermetic models Servel is bringing out will bring in lots of new business from the frozen foods field, as well as from other commercial markets. Do you wonder I'm glad I sell Servel?"

Even this enthusiastic comment, typical of many we hear from Servel dealers and distributors, doesn't cover all the reasons why they're glad they "Sell Servel." If you'd like the complete story, and information about the opportunities for a Servel franchise in your territory, why not write today?

FREE: For information about Servel condensing units, and for an authoritative discussion of one of the most promising of post-war markets, send for your free copy of "A Study of the Farm and Home Freezer Market After the War." Address Servel, Inc., Dept. RN, Evansville 20, Ind.



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PROVIDES MAXIMUM EFFICIENCY THROUGH CONTROLLED AIR DIFFUSION

Any Desired Condition At Your Finger Tip

KNO-DRAFT *Type K Adjustable Air Diffuser With Type D Volume Damper*
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ALL Kno-Draft Air Diffusers are also equipped with *air direction* adjustment to suit seasonal or individual requirements. Their engineered design insures more effective room air mixing, more uniform room temperature and controlled, noiseless, draftless air diffusion at low cost.

Write For Descriptive Folder A.

W. B. CONNOR ENGINEERING CORP.

114 East 32nd Street — New York 16, N. Y.

Off the Chest

RHODESIAN FOLLOWS EDITOR'S FOOTSTEPS

Sgt. J. H. Cairns
17th Rhodesia Battery
1/6th Field Regt. S.A.A.
U.D.F. M.E.F.

The Editor:

For a few years before the war I was a regular subscriber to AIR CONDITIONING & REFRIGERATION NEWS, my address being c/o Cairns, Ltd., Salisbury, South Rhodesia

I recall that the editor, George Taubeneck, wrote a series of most interesting and descriptive articles on his "Round the World Tour," which I believe were later published in book form. Some months ago I endeavored to obtain a copy of this book through our shippers, Messrs. Fenchurch Export Corp., 1 Broadway, New York City, but without success.

I am very keen to have a copy of this book, in case it is still available, and have taken this liberty of writing direct to you in the hope that you may be able to assist me in procuring one. Should you be able to do so, would you be good enough to mail it to me at my present address and send your debit for all expenses to Fenchurch Export Corp.

Since the outbreak of war, I have been in several of the countries visited by Mr. Taubeneck, and I would now like to refer to his notes on them. I also feel that his wonderful sense of humor would be a tonic to many of us in these trying times. At present, I'm with the Fifth Army in Italy.

I trust you will forgive the liberty I have taken in writing you, and sincerely hope you can assist me. Thanking you in anticipation,

Yours faithfully,
SGT. J. H. CAIRNS

THE RIGHT AND WRONG OF AIR CONDITIONING

American Coils Co.
Newark, N. J.

Editor:

Your article on air conditioning for homes, which appeared in a recent issue of your paper, was very interesting to us.

We agree that the postwar air conditioning of homes and offices will have to be along the lines you outlined:

1. Lower operating cost.
2. Compact units operated from central systems (without the use of ducts).
3. Standardized in application eliminating the contracting stage.
4. Combined cooling with dehumidification and heating with humidification.
5. Flexibility of control to take care of variable weather conditions.

It is our contention that the problem of air conditioning has always been approached from the wrong angle—that is, the lowering of the dry-bulb temperature was considered of major importance and removal of excess moisture as a secondary consideration.

This is why the early theater air conditioning installations were so unsatisfactory. Most everyone has experienced that cold draft of air and the sudden shock when entering or leaving the theater. This is caused by cooling the air below its dewpoint temperature (cooling 20 to 25°) in order to remove the excess moisture, which results in overcooling, especially on mild temperature days when the humidity is high.

Furthermore, there was no satisfactory way of controlling the capacity as maximum cooling might be required on mild temperature days in order to maintain the desired humidity. Certainly the use of reheat is not the proper answer as it is both complicated and expensive and simply adds to the refrigerating load.

Our new unit is designed to remove the excess moisture without excessive cooling and operates on an entirely new principle, which is based on one of the fundamental laws of thermodynamics—that is, Dalton's law on the theory of partial pressures of a mixture of vapors. The excess water vapor is removed due to a difference in the water vapor pressure existing in the air as compared to the relatively low pressure maintained in a coil enclosure.

The capacity depends on the vapor pressure differential, therefore these units will automatically adjust themselves to the true load requirements and will save up to 60% of the operating cost under certain operating conditions. Furthermore, the air does not pass directly through the cooling coil so that the dry-bulb temperature is only lowered a small amount, usually only 5 to 10°, depending on design conditions.

Aside from the very favorable operating characteristics, this approach makes it possible to estimate the load requirements on the basis of the amount of moisture vapor to be removed in order to maintain the proper humidity or dewpoint temperature in the conditioned area and so greatly simplifies the calculations. This not only saves a great amount of engineering time and expense but makes it possible to handle sales through regular jobber and dealer outlets without expensive engineering facilities.

H. A. THIBAULT

CONSULT THE REPAIRMEN BEFORE REDESIGNING

Eufaula, Ala.

Editor:

With all that's being written and said about postwar planning, both by old prewar appliance manufacturers and prospective ones, I would like to add a few lines in the hopes that it will reach the eyes of the guilty ones of the past as well as serve as a guide for the new ones to enter the field.

What I have reference to is the apparent absence of a good experienced appliance service man from the planning board when a manufac-

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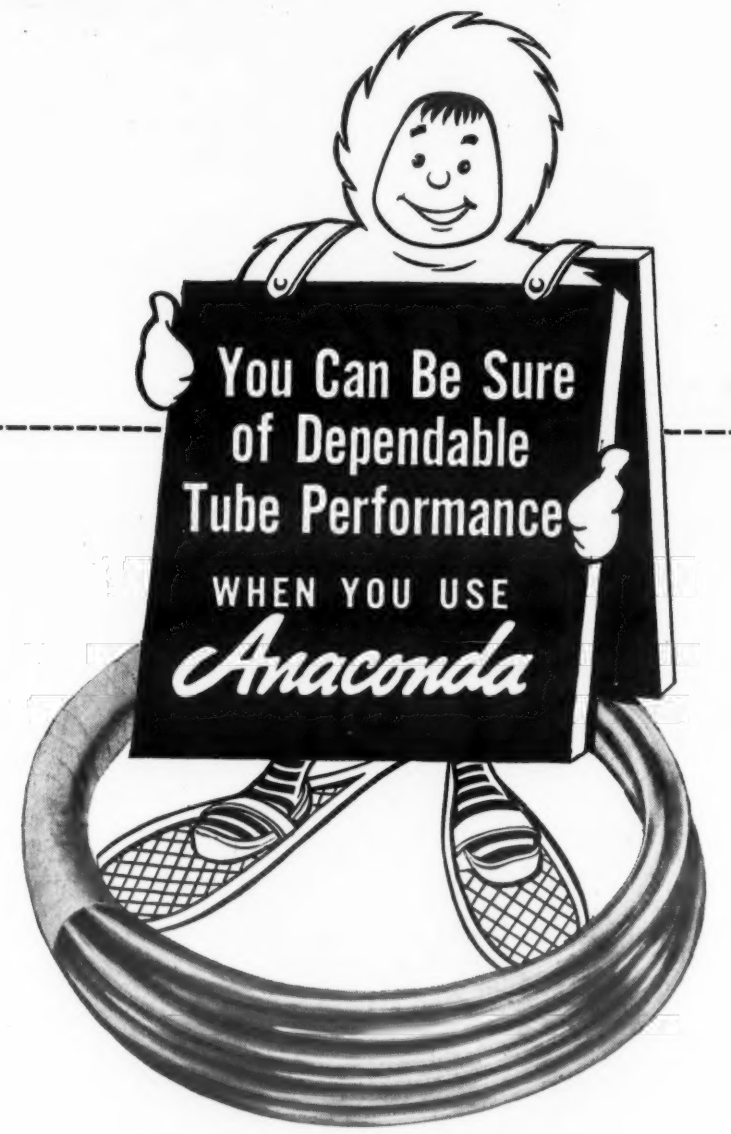

Cup Sealed* Anaconda Dehydrated Copper Refrigeration Tubes are easier to handle. They can be formed before the sealed ends are cut off, thus keeping tube interiors clean and dry. They can also be fed through smaller openings than tubes with flattened or crimped ends.

Anaconda Dehydrated Refrigeration Tubes are 99.9% pure copper, specially deoxidized to increase corrosion resistance. Manufactured to meet A.S.T.M. specifications B68-43, these tubes are thoroughly dehydrated to assure bright, clean and dry inside surfaces. Exceptionally soft, they bend readily and can be flared without cracking.

Anaconda Dehydrated Refrigeration Tubes are available in all standard sizes up to and including ¾" O.D. They are stocked by distributors in coils of 25, 50 and 100 feet. Longer lengths can be supplied on special order.

*Pat. App. for

ANACONDA *Anaconda Refrigeration Tubes*

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Subsidiary of Anaconda Copper Mining Company—General Offices: Waterbury 88, Connecticut
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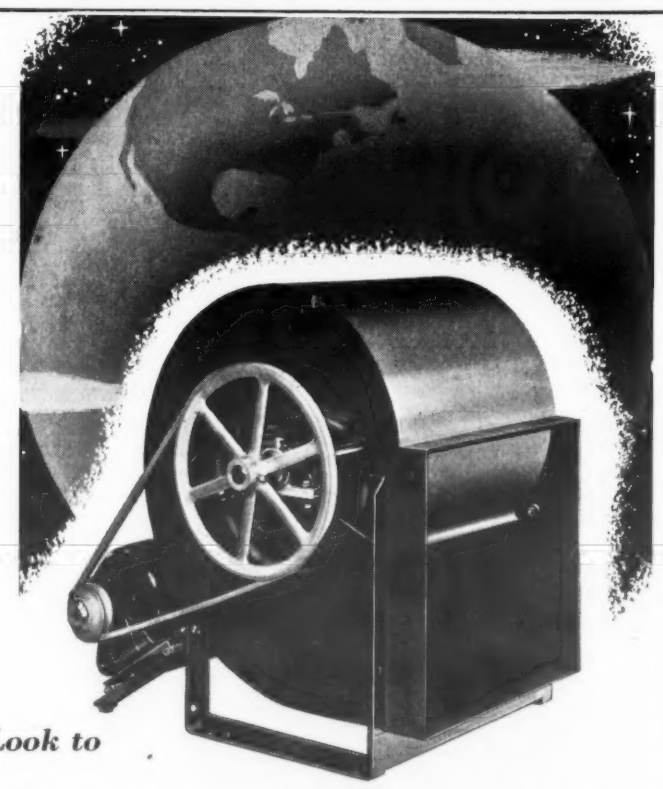
WAR BONDS...BUY ALL YOU CAN...KEEP ALL YOU BUY!



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Engineers and fabricators of general Air Handling Equipment
Single Inlet and Double Inlet Blowers • Propeller Fans • Accessories

Off the Chest

(Concluded from Page 20, Column 5)

turer redesigns his appliance or starts making a new one.

In each new appliance you can see the part played by the designer, engineer, artist, draftsman, advertising man, factory foreman, even the financier, but there's not anything to show that a good experienced service man has had anything to do with it.

Some of the faults that have developed after two or three months service in the home could well have been headed off if there had been a service man there to tell the designing engineer "I don't think that will work" if he felt that way.

With all due respects to the designing engineers, their theories and college degrees, there's nothing can take the place of 10 or 15 years service on appliances in the home when it comes to designing a new appliance or redesigning an old one. Men, with this experience should be on every manufacturer's planning board.

If such a man did nothing but get out a parts catalog and service manual to reach the dealers hands with the first of the new models, he will have earned his salary. Some of the leading manufacturers have been from one to two years behind each new model with such information and I suppose some of them haven't put out this information yet on the last appliances they made before converting to war work.

I don't know whether this apparent indifference is due to a feeling that defects and the service departments are a necessary evil of being in the appliance business or whether it's due to the hope that there will be no defects in the new appliances or the old ones after redesigning.

In either case, the manufacturer's service department and parts department, where they have existed in size, have been hidden from the public as something to be ashamed of, instead of proud of having them. Take a tip from the auto manufacturers and how they play up the availability of their parts and factory trained service men.

The public knows now that electrical appliances require servicing at times, and there's no need to hide it or try and minimize it too much.

The manufacturer who does all that is possible to eliminate defects at the design and manufacturing stage and then prepares the dealer with parts and service manuals, and a few most likely needed parts to enable him to render service when needed—that manufacturer will get the sale for the new appliance when the old one is replaced.

I can't offer a suggestion for improving AIR CONDITIONING & REFRIGERATION NEWS without the use of more of your rationed paper supply.

H. J. WILKINSON

BUENOS AIRES HAS ITS REPAIRMAN PROBLEM

Henry W. Peabody & Cia.
Buenos Aires, Argentina

Sirs:

In your Sept. 4 Bulletin you mention on page 4 an extension of training program drawn up by the National Refrigeration Service Council, in Washington.

As distributors of Frigidaire equipment in the city of Buenos Aires and suburbs we employ about 200 people in the service end of the business.

We are quite satisfied with the results obtained so far, but find that service men are hard to find, and generally lack sufficient training; in consequence we would like to have more information on the subject.

Being consistent readers of your publications which certainly keep us posted on the fast moving events of the industry, we take the liberty to ask you to advise us on this matter.

We do not know if we could approach that council, as we imagine it deals with domestic problems only, so we would like to have your opinion on the subject, and if at all possible have the programs and instructions issued for the purpose of service men training, mailed to us.

As up to the present we have tried several training systems with limited success we wish to investigate the possibility of adapting to our needs the council's program in training service men.

In case you think that the council would answer our request, please let us know, giving us the correct and complete address, in order to write to them directly.

GASTON F. NORDEMANN

'NEWS' HELPS MECHANIC ON S. PACIFIC ISLAND

Tinian Island
Marianas Islands

Sirs:

Enclosed you will find my money order of $5, of which $4 is my renewal subscription to AIR CONDITIONING & REFRIGERATION NEWS. The $1 is for your Commercial Refrigeration Master Service Manual No. 1. I now have No. C-2 and C-3 and as my C-1 has been lost I would like to replace it.

I thank you very much for your service on my NEWS during the past year. I am, as you will see by the above address, away out on an all-important island in the West Pacific. I am doing refrigeration work taking care of those navy units out here on this island and do appreciate getting the news from your office.

ERWIN SHELDON WILLIAMS, E.M. 2/c

NEED A DISTRIBUTOR IN NORTH CALIFORNIA?

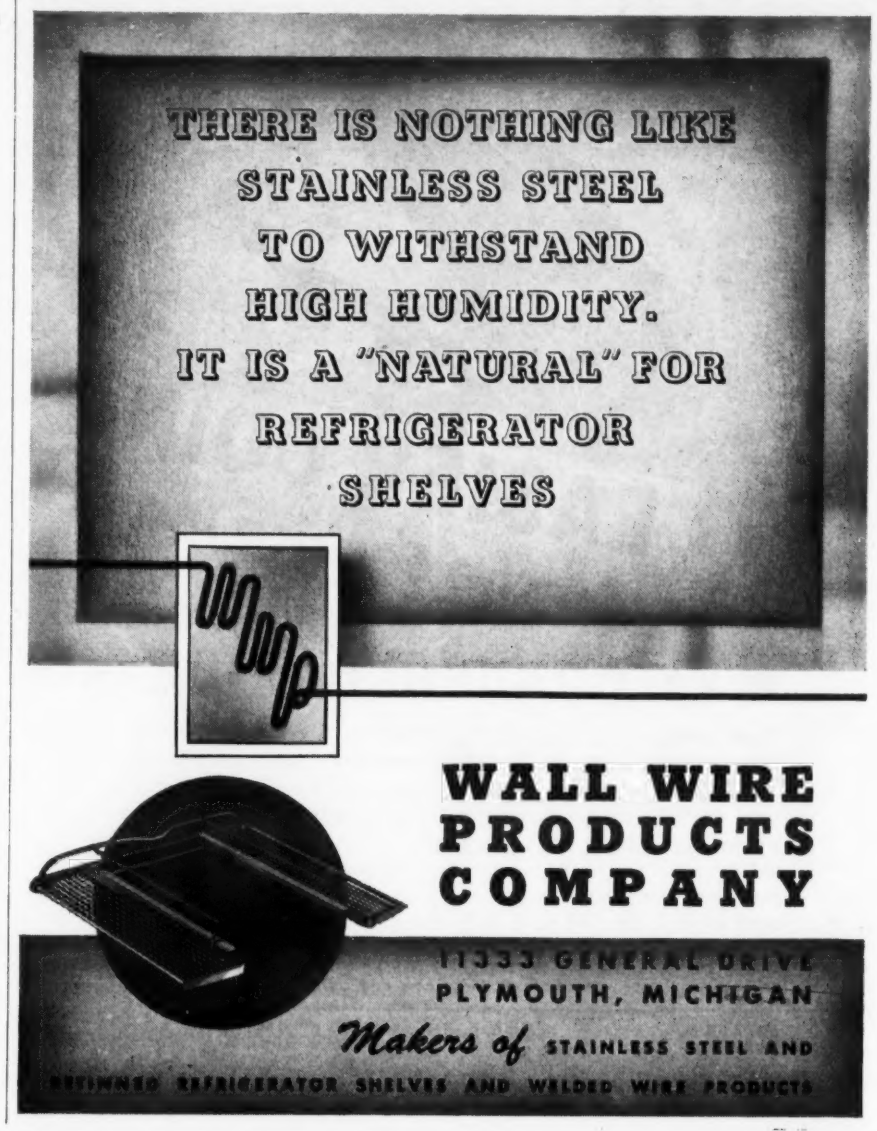
Pacific Wholesale Co.
San Francisco, Calif.

Editor:

We are looking for a line of home refrigerators for distribution in Northern California. If you know of any refrigerator line that is looking for distribution in this territory, please mail us their address so that we may get in touch with them.

Also, mail me a subscription for the AIR CONDITIONING & REFRIGERATION NEWS.

T. N. SMILEY



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AND AIR CONDITIONING
YOU will find NIBCO WROT Fittings, return bends and tubular parts mighty useful in laying out air conditioning or refrigeration equipment. In many cases, instead of having to buy a special part, you will find what you need in our standard line ... tees, els, couplings, reducers, adapters, crosses, return bends, hangers ... more than one thousand items and sizes are listed in Catalog 613. If you do not have a copy, write for it today.
NIBCO WROT Copper Fittings
NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904

TO G-E DISTRIBUTORS AND CONTRACTORS
With this dramatic advertisement, G-E continues its series on unusual applications of air conditioning and refrigeration. Through Time, Newsweek, Business Week and selected industrial publications, this interesting series is helping to create new sales opportunities for you ... by familiarizing your key prospects with the many potentialities of air conditioning and refrigeration.

Air Conditioning helps this theatre put on GREAT shows!

You watch the Jap take a torpedo amidships.

Your eyes strain to catch every changing scene, every detail, every flicker of motion. You see the Jap flounder . . . and sink. This is a *great* show!

Air conditioning not only helped to make those unforgettable pictures clear and sharp and bright . . . it helped make possible *the hit itself!* Because the optical aiming and viewing system used in the periscope of this U. S. submarine was ground and polished to high standards of precision—in an air conditioned workshop.

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When the time comes, would you like to be one of the first to get information about postwar G-E Air Conditioning? Write: *General Electric Company, Air Conditioning and Commercial Refrigeration Divisions, Section 47011 Bloomfield, N. J.*

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Little things that make life pleasanter: A complete new reed-type valve plate which can be removed without disconnecting lines. Eliminates breakage and need of lapping valve seat on the job. ★ Simplified crankshaft—no flywheel puller necessary. Makes seal change fast and easy even with smallest clearance. ★ These and many other fine features in the complete M&E line to be ready as soon as conditions permit and to include 1/4 to 5 H.P. integral units for all purposes.

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Rema's President Offers Some Concrete Ideas for an All-Industry Organization

Editor's Note: Since the war started there has been a great volume of discussion about an overall "association" or organization of some kind for the refrigeration and air conditioning industry, but very few specific proposals have been made. In a talk before the recent Rema meeting A. B. Schellenberg, president of that association, came forth with some concrete ideas. A condensed version of his talk is printed here.

There is absolutely nothing original in my recognition of the need for an All Industry Organization. The desire for a solid front is pretty general in the industry. The feeling that we must all get together some day has been evidenced in many ways.

Let me point out what seems to me a true parallel. First and foremost, we are all Americans. Our political, religious, or occupational preferences are important to us, of course, but when it gets down to cases we are primarily Americans, and some day soon, primarily citizens of the world. The sound, far thinking members of our association and our industry have the hope that some day soon we will all feel that first and foremost, we are a Refrigeration and Air Conditioning Co.

The great hope for our industry lies in the recognition of the need for unity by so many individuals and groups. True, some of the efforts in this direction may have been poorly timed, partial in their execution, or may have seemed to be prompted by selfish motives, yet we cannot deny that some very basic fundamental need has prompted all this activity.

I think we have all been aware of the industry need. Just to sum it up, let me quote from an address made by Cloud Wampler, president, Carrier Corp., at the Refrigeration Industry Forum of ASRE last December. He said:

"Our industry certainly does need 'one voice.' And that voice should be truly representative, but at the same time not so large as to be 'out of tune' and therefore ineffective, because of lack of agreement on policies and objectives. Perhaps there is in existence today some organization around which a genuinely representative body can be built. Frankly, I don't know. But I do know that our industry will not speak with the authority to which it is entitled unless we put aside the narrow approach for the broad approach and organize ourselves on a sound basis."

I think you will grant the need and desire for a solid industry front is very real. Why should we be so afraid of something we all recognize as necessary and inevitable and which most of us want?

Who Objects, and Why?

Now why is it so difficult to accomplish? There may be other reasons, but I believe the main reason is the old story of the little fellow and the big fellow. I warned you I would speak frankly.

Some of the little fellows are afraid the few big ones will dominate and submerge them. They feel they are better off to remain apart and independent, and yet without the present big fellows, they would either become big themselves or go out of business.

Most of the big fellows feel they have an undeniable right to dominate and control because of their great dollar volume and yet without the competition of the little fellows they would stagnate.

A doomed and dying trade association or industry is one made up of only big fellows or only little fellows. If there are only big fellows there is little or no progress, for little fellows force progress.

If a few big fellows have and control everything, there is no forced necessity for improvement. If the products of the few sole big fellows are important to public welfare and they have true monopoly with the resulting slow up of development they may wind up being just one great big company—practically a branch of the government.

If an industry or an association is made up of all little fellows several things may happen. If they all remain little there will be practically no progress for they won't be able to afford it and the art or industry will die. If they do a good job some of the little fellows soon become big fellows.

One of the hardest things to do in the business world is to remain a healthy little fellow and keep from growing big. What many of us wouldn't give to stay a very small profitable company. Somehow you just can't remain stationary in business—you must either go forward or drop back to eventual oblivion.

Only a few types of companies in an industry can have complete independence even though relatively temporary at best.

Who Can Be Independent?

First, the real little fellow—the lone wolf. He can be independent for a time, but then he grows up and must accept industry responsibilities, ethics, engineering practices and standards because it will be to his selfish advantage to do so.

Then, there is the side line company—only a small part of its sales are made in our industry. Either the business in the side line becomes of worthwhile proportions, or this company soon discovers someone else has made a main business out of his side line and has become a factor in the industry.

The last type of company which can enjoy temporary independence is the great company, but somehow sooner or later they, too, make a discovery. All of a sudden they find that there are a couple of little fellows who together are taking a big share of the business, and of equal importance, these same little fellows are a real influence in the molding of the consumers' ideas and habits.

True independence in a growing industry, if such can even be said to be temporarily possible, is a very expensive luxury — luxury which will kill an industry if enjoyed by too many companies in that industry. Let us realize that in an integrated

(Concluded on Page 23, Column 1)

Yours for the Asking

NO SEDIMENTATION NO RUST
NO CORROSION ION
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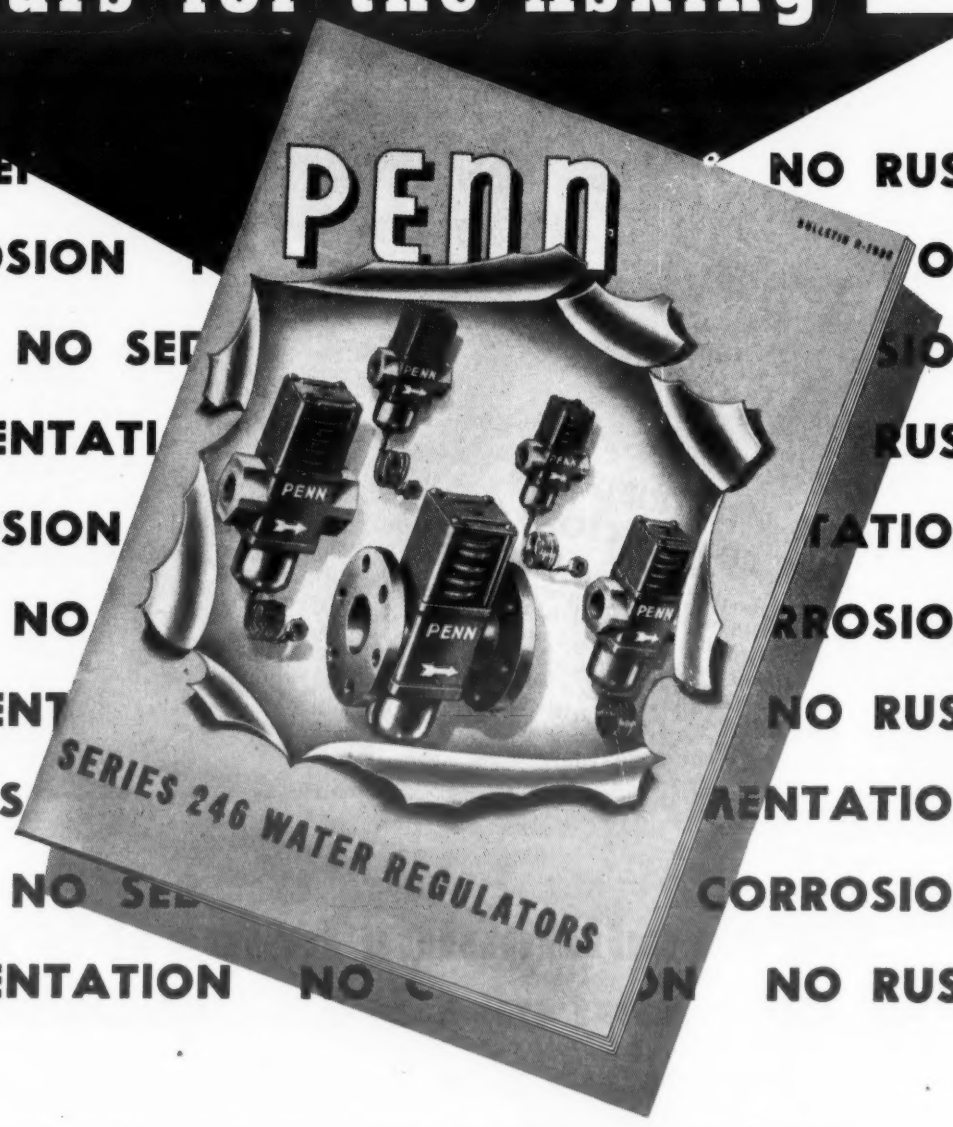

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All-Industry Organization Could Benefit 'Big' and 'Little' Firms

(Concluded from Page 22, Column 5)

industry such as our's, many companies often depend upon the success of a few big ones.

For example—too often most of the companies in an industry, whether they realize it or not, depend upon the advertising efforts of the few big fellows to sell the products of that entire industry to the consuming public.

The advertising of the big companies may not always be the best. There may be only a dozen or so companies consistently advertising to the public. The future of the industry may be largely affected by a dozen or so advertising managers. The few large companies in an industry often set the pattern for all companies in that industry for such as guarantees, engineering standards, etc.

Now if I were a little fellow I'd want to be in a position to occasionally influence the thinking of the big fellow. I'd kind of like to be around when they are formulating plans and policies.

I would at least have the opportunity to say something, apprize the big fellows of my side of the story, and, perhaps influence their thinking. You know if you want to go places in these changing times you do well to either be on the rules committee or have a seat just outside the room in which they meet.

How About the 'Big' Fellow

Now, if I were a big fellow I think I'd realize that my company just couldn't get all the business and even if it did, I'd still have an awful lot of component parts manufacturers to worry about. If those component parts manufacturers didn't do a good job my reputation and success would be affected.

I'd realize that big companies can profit from the experience and knowledge of little companies. I'd remember the time not so long ago when only the component parts manufacturers and little companies made a profit. The little fellows, incidentally, realize that this condition was not healthy. The industry as a whole, big companies, little companies, prime product manufacturers, and component manufacturers, must all be profitable if there is to be growth and permanency.

When thinking of trade associations big companies so often feel representation on the governing body should be on the basis of dollar volume of business and size. Now if I were a big company, I'd realize that all of the components and basic materials supplied to me by other companies added together compares very favorably with my volume of business.

I wouldn't worry about the little fellows having the same number of representatives as I do. Surely my big company should be able to afford top caliber men to represent it. If the little companies produce high caliber representatives who can hold their own with my men, I'm in a pretty good industry and I don't have much to worry about.

Having studied the need and the problem it follows that, we should now give serious thought to the solution. What kind of an over all organization would best suit the needs of our industry?

Fortunately it is not necessary for us to work out a final solution today or next month. I would like, however, to discuss a few fundamental principles and indicate possible ways of solving the problem with the hope that I might stimulate and crystalize our thinking.

We will want an organization which is truly representative of our entire industry—an organization which can speak with authority for our industry in its dealings with the public and government. We will want our organization to render constructive service in such fields as commercial standards, codes, public relations and publicity programs, shows and exhibits.

We will want an organization large enough and strong enough to exert a powerful influence for sound, healthy growth. Our industry organization must be of sufficient stature and value to attract the new companies who are expected to enter our industry and to provide them early guidance and assistance.

In my opinion we will want to confine the membership of our All Industry Organization to manufacturers of refrigeration and air conditioning equipment. This organization should not attempt to be all inclusive for if it contained all of the factors in our industry it would be too large and unwieldy to be effective.

The technical societies of our industry should retain their independence and refrain from any entangling alliances with commercial groups if they are to realize their maximum importance and effectiveness.

We will want an organization which will make it possible for the smaller common product segments of our industry to act upon their problems without being encumbered by the broad organization structure.

The smaller product groups should enjoy as much freedom of action and independence as possible consistent with the principles of good organization. Every member, whether large or small, should have equal voice and privileges.

The Governing Body

The governing body, the board of directors, should be representative of every segment of the organization and yet it should not be too large. Experience in other organizations has proved that when a board of directors is large and unwieldy it does not function efficiently, and it becomes vulnerable to domination by small cliques.

It would appear that one possible solution to this problem would be to create sections of the parent organization. Each of these sections would consist of the various product groups who have common problems. For example, initially, there could be three sections of the industry organization:

1) The parts and accessories section which would include the following: heat transfer equipment, temperature controls, flow control valves, valves and flare fittings, refrigerants, lubricating oils and chemicals, tubing and sweat fittings, and general products.

2) The unitary equipment section which would include such product groups as: water coolers, room coolers, farm freezers, home freezers, package air conditioning units, refrigerated cases and cabinets, bottle beverage coolers, etc.

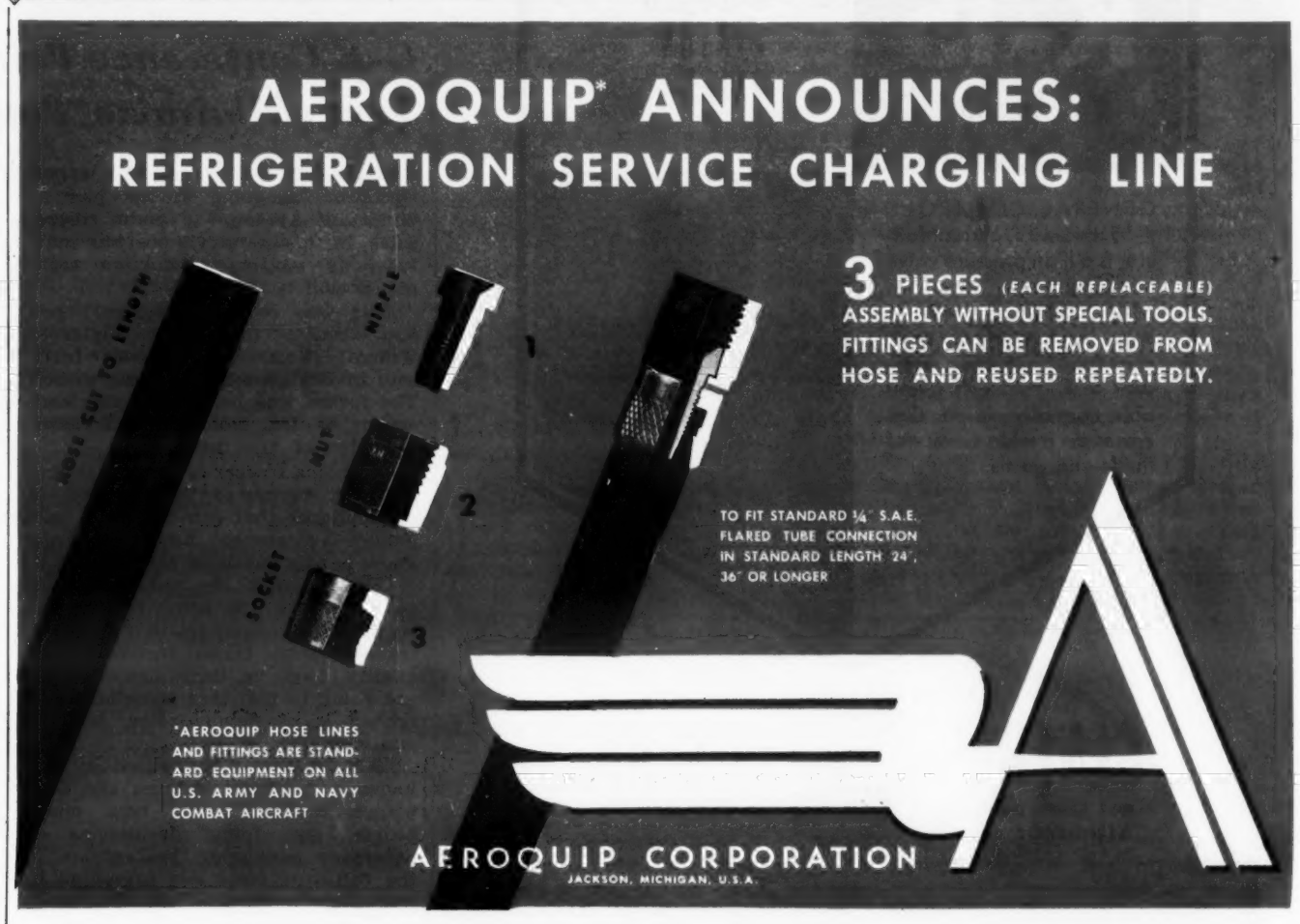
3) The high side equipment section which would be made up of possibly three product groups —one for compressors up to 5 hp., another possibly from 5 to 25 hp., and a third for the heavy machinery manufacturers.

Each of these sections would probably have its own chairman and secretary.

The board of directors of the All Industry Organization could consist of representatives from each of the three sections, together with several members at large. It might be that three men would be elected from each section and three men from the membership at large, making a 12 man directorate.

In an all inclusive organization such as this I believe it would be highly desirable to provide for members at large as a means of preventing the domination of the board by any small group and as a means of taking advantage of the assistance of unusually capable individuals, regardless of their group affiliations.

This is, of course, only a very rough organizational outline and it is, I am sure, but one of several ways of setting up the kind of an All Industry Organization we want. I have no intention of promoting or defending this arrangement as against any of the others which I know are possible. I have merely made this suggestion with the hope of stimulating our thinking.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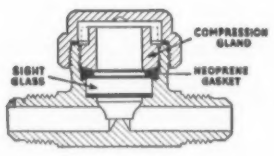

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★ Here is CARL ELIASON, Vice-President of Tyler Fixture Corporation, and widely known for his knowledge of food products merchandising and his ability to sock golf balls down the middle of the fairway. During the war, he is playing an important role as a Development Engineer and Washington representative. When the current job is finished, he will be back to see his old friends with a great new story.

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K-15

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GENERAL CONTROL'S K-15, two-wire, current failure, is a high pressure valve handling large capacities with minimum pressure drop. Main valve held open electrically minimizes pressure loss. Packless, available normally closed. Operates on a wide variety of fluids and gases.

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Consumer Education on Proper Use of Unit 'Vital to Home Freezer Success'

G-E Conference Points Out Problems; Tests Minimize 'Power Shutoff' Danger

BRIDGEPORT, Conn. — Consumer education is going to be just as important a factor in home freezer sales, in this country's postwar markets, as modern production techniques will be.

This was the point agreed upon and discussed from many angles at General Electric's Consumer Institute in Bridgeport early this month. The forum was held under the leadership of Dr. Donald K. Tressler, manager of the institute.

The home freezer is an outstanding example, suggested Dr. Tressler, of an appliance that can defeat its own public acceptance because people know hardly anything about using it.

"Even though the value and dependability of the home freezer has been proved commercially," he illustrated, "people trying to freeze high quality food in their homes often are going to find that something has robbed it of flavor, color, texture, and nutritive value.

"All these can be caused by not knowing how to package the food before freezing. But how many people have found discussions of necessary packaging precautions in the full-page color ads presented to whet their appetites for the product?" he asked.

DO IT BEFORE SALES ARE MADE

"You can't wait until a housewife has bought one," he pointed out. "That's too late. By that time she may already be a disappointed owner. Consumer education should go right along with sales promotion if the dealer wants to avoid dissatisfied customers and sales kickbacks."

He went on to explain that slight cracks or tears in the wrapping material results in the spoilage of the food by oxidation and dehydration. The shape of the container also counts—rectangular ones have proved more practical than cylindrical ones.

The exhibition included the premier showing of a 45-minute full-color sound film on the preparation of frozen foods. Produced by the Consumers Institute as the initial step in a nationwide education program to make consumers familiar with the best procedures, it covers all phases of food preparation, both before and after freezing.

Taking care of a freezer is something which logically might be followed up by the utility serving the home where it is used, Dr. Tressler suggested at the close of the film.

While care of the freezer will be covered in the actual selling discussion, he acknowledged, the utility can build goodwill and customer confidence by adding to that information with specific facts on what to do when the power goes off.

Experiments were performed by the Consumers Institute last summer to find out what would happen to the contents of a home freezer if power lines broke during a storm, he explained.

POWER OFF, FOOD KEEPS

For the experiment, current was cut off from three small home freezers filled with frozen food. The freezers were opened every 24 hours and the contents examined.

After two days all the cartons were still solidly frozen, he reported. It wasn't until after five days that a half-thawed state was reached. Since power breakdowns usually don't last longer than two or three days, home freezer owners won't have to worry during even heavy storms that blow themselves out in the usual short time.

After the war it is probable that public utilities will chart the names of their home-freezer customers, notify them of storm warnings and reassure them as to how many days the storm will run. Customers then can bank up their frozen foods with dry-ice bricks inside the freezer.

Other points of information that consumers should know were brought out during the conference. Frozen foods, for instance, while they are equivalent to fresh cooked market produce, sometimes are ahead of fresh food in nutritional value, pointed out Dr. Jennie McIntosh of Dr. Tressler's staff.

TIPS ON PREPARATION

"Fresh foods not properly refrigerated begin to lose their food value," she said. "But frozen food, well packaged and well prepared in cooking is food at its best. Cooking preparation requires only four simple rules:

"1. Use a minimum of boiling water.

"2. Use a covered saucepan.

"3. Cook only until tender, no longer.

"4. Serve immediately.

"There is no loss in nutrition during freezing or storage itself," Dr. McIntosh emphasized. "Only improper preparation or faulty methods of cooking for the table can damage food content of ascorbic acid (vitamin C) or thiamine (vitamin B-1)."

Housewives keep writing in with such questions as: Is a home freezer better for an individual family's needs than frozen food space in a regular refrigerator? What's the best way to use these spaces?

These and other special problems met in freezing a variety of foods are constant questions, said Miss Katherine Fisher, director of the Good Housekeeping Institute.

"Home freezing has come out of years of research and experimental freezing," she pointed out.

"But even though this means the fundamentals are established, the consumer's success with home freezing is going to depend on how well she understands and applies these principles. Without that knowledge the home freezer is going to be a big disappointment."

The most efficient use of the home freezer is preserving fresh foods, said Mrs. Adelaide Fellows, of the Consumers Institute. It won't be filled up with cooked foods by the average housewife.

"But completely frozen meals ready for no more preparation than heating to serving temperatures, are on the way for postwar home freezer owners," she stated.

SOME OF NEW ITEMS

"The home freezer actually is ready for freezing and storing bread or rolls, pasteries such as coffee rings pies, angel food and sunshine cakes chicken a la king, cooked chicken for salad, beef stew with vegetables baked beans, even spaghetti and meat balls."

The technicolor film showing the steps necessary in effective preparation of frozen foods will be distributed as part of the educational program being worked out all over the country, according to L. H. Miller, manager of General Electric's refrigeration department.

It is in no sense a sales instrument for this or any other G-E product, he stated, but was made as an educational device to help owners and future owners of any brand of home freezer to use their appliance to the best advantage.

The 16mm. film will be made available without charge to utilities, department stores, the 810 cooperatives of the Rural Electrification Administration, schools and colleges, state extension agents, and retailers and dealers everywhere.

By January or February all G-E appliance and merchandise district managers will have prints of the film for showing to consumer groups, he revealed.

Prophetic estimates of a 120 or 130-billion-dollar national income, a figure twice the prewar national income, are going to be possible only if bigger markets are developed, stated Boyd Bullock, advertising manager of General Electric'c appliance and merchandising department.

It isn't going to be a question of strong competitive selling in the market that automatically will exist, he emphasized. A new market must be made. And fundamental to its structure will be consumer education, if the market is going to last.

Only under those conditions, Mr. Bullock concluded, will "more goods for more people at less cost" become possible.

Opens Worcester Store

WORCESTER, Mass. — Oscar S. Anderson opened a major appliance and housefurnishings store at 190 Commercial St. here recently. He had been associated with the C. T. Sherer Co. department store here for 20 years, and was formerly appliance merchandise manager.

When B-U-Y DAY arrives...
They'll demand the name
Deepfreeze
on the home freezer they choose!
They know only Deepfreeze provides 100% primary freezing surface...100% food protection

The day is fast approaching when millions of dollars in savings will be invested in thousands of home freezers.

And when that day comes, thousands of home freezer buyers will buy nothing less than the genuine Deepfreeze.

Building up toward that day, full-page advertisements in the leading magazines are now broadcasting the facts about the Deepfreeze — proving that the Deepfreeze alone provides 100% Primary Freezing Surface! 100% food protection!

Protected by exclusive patents, the Deepfreeze principle of 100% Primary Freezing Surface prevents harmful food dehydration because the entire inner wall of the Deepfreeze is *freezing surface*. Temperature differential between the cold wall and food storage area never exceeds two degrees. Therefore, in a Deepfreeze there is no circulation of warm air to pick up moisture from stored foods. Foods stay appetizingly farm-fresh—far longer!

No other home freezer can match the performance of the Deepfreeze—proved in thousands of homes since 1938. And remember, no other home freezer can be called a "Deepfreeze"—the name your customers will demand on B-U-Y DAY.

That bright day may not be too far away. Prepare for it now. Mail coupon today!

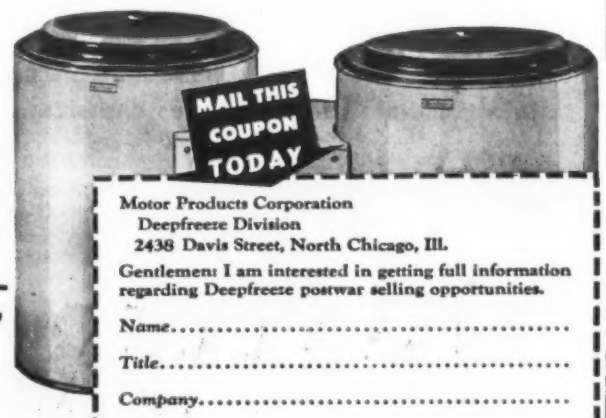
Cartridge cases, airplane nose and tail gun turrets, blood desiccating units and industrial freezing equipment are among the war products that Motor Products Corporation is proud to be making to speed the day of Victory.

AWARDED DETROIT PLANT
ARMY E NAVY

Deepfreeze
TRADE MARK REG. U.S. PAT. OFF.

ONLY MOTOR PRODUCTS CAN MAKE A "DEEPFREEZE"

MOTOR PRODUCTS CORPORATION
Deepfreeze Division: 2438 Davis Street, North Chicago, Illinois
Main Plant: Detroit, Michigan — Canadian Plant: Walkerville, Ontario



Motor Products Corporation
Deepfreeze Division
2438 Davis Street, North Chicago, Ill.

Gentlemen: I am interested in getting full information regarding Deepfreeze postwar selling opportunities.

Name.....
Title.....
Company.....
Address.....

NEW 1944 CATALOG

Write for copy on your letterhead

Washing Machine Parts Catalog will not be issued in 1944

SERVICE PARTS CO.
2511 Lake St. Melrose Park, Ill.

Clarence Birdseye Says Frozen Food Gains Beget More Refrigeration For All Foods

Predicts Wider Use of Refrigerated Fixtures To Display Fresh Produce

ATLANTA — Tremendously increased use of refrigeration in the expanding perishable foods industry will be an important factor in building up the postwar loads of utility companies, utility representatives were told by Clarence Birdseye of Birdseye Frosted Food Co. at a meeting of the Southeastern Electric Exchange here recently.

Quick-freezing of foods, locker plants, farm and home freezers are due for a vast increase in the postwar period, and more refrigeration and air conditioning are likely to be employed in the handling of perishable foods, all of which will contribute a large load to electric utilities, he declared.

"The perishable food business is incomparably the largest industry in the United States," averred Mr. Birdseye. "Food sales through retail stores alone were more than $17 billion in 1943, an increase of 70% in the four years.

"About 75% of all American foods are 'perishable,' and it has been estimated that this branch of the food industry will alone amount to $25 billion annually within five years. Practically every pound of this huge quantity of perishable food must be preserved in some manner during its trip to the consumer, and electric energy will be increasingly used for this purpose."

Pointing out that none of the few methods of preserving perishable foods now in use are new, Mr. Birdseye said that the best future lay in concentration, freezing, dehydration, and the distribution of perishables at above-freezing temperatures.

All Foods Require Some Form of Preservation

"All of these methods require the use of tremendous quantities of electrical energy during the steps of preparation, processing storing, transportation, and distribution," he said. "Even dehydrated vegetables, milk, eggs, and fruit juices are semi-perishable and require artificial refrigeration unless they pass into consumption very quickly.

"Although the perishable food industry has always been ultra-conservative, intense postwar competition will energize a technological ferment which in a few years will completely change many aspects of the food business. Let me point out important trends.

"Food freezing by artificial refrigeration was already an important industry at the turn of the last century, but the newer "quick-freezing" is only about 25 years old. It is expanding phenomenally in both volume and scope. This expansion will be greatly accelerated in the immediate postwar period, and a large proportion of our total perishable food supply will evenutally be distributed in quick-frozen form.

'Internationalizing' Foods

"There will be an immense increase in the volume not only of quick-frozen vegetables, fruits, and seafoods, but in that of similarly preserved meats, poultry, and ready cooked dishes of many kinds. Quick-freezing will, together with air transport, internationalize the distribution of many delicious but highly perishable exotic foods," he declared.

"Electricity is as essential to quick-freezing as bones are to the human body. Electric energy is required to operate equipment for preliminary processing, to freeze the foods, to store them, to produce the ice to provide low-temperature transportation, to maintain very low temperatures in warehouses, to cool dispensing cabinets in retail stores, and to hold frozen products in domestic refrigerators. Incidentally, electricity plays a leading role in the production of solid carbon dioxide, used extensively in shipping quick-frozen foods.

"Locker plants are an outgrowth of quick-freezing, and an important part of the frozen-food industry. They are, in reality, a combination of a small quick-freezing plant and low-temperature warehouse, often providing as many as several hundred small lockers maintained in the neighborhood of 0° F.

Recent polls have indicated that in the postwar period 85% of locker plant operators plan to distribute low-temperature cabinets to their patrons, and that 78% expect to supply those cabinets with quick-frozen foods.

In Concentrate Process

"Tremendous quantities of milk and fruit juices are today concentrated in vacuum pans, with the necessary heat furnished by steam," continued Mr. Birdseye. These concentrates, while nutritious and wholesome, are necessarily altered in flavor and aroma by the heat and low pressure essential to the vacuum-pan process.

"I believe that in the postwar era freezing-concentration will largely supplant the vacuum pan. The principle involved in this new process is the same as that used in making clear ice from unfiltered water. The liquid to be concentrated is frozen slowly so that pure water ice will be formed from a part of its moisture content, and the remaining concentrate is then separated from the ice.

"Practical equipment for carrying on this operation on a commercial scale is not yet available, but I believe it will be in the relatively near future. At the low temperatures involved in this process, substantially all the original flavor, aroma, and nutritive value of the fresh products are maintained. Consequently, the new concentrates may expect a greatly expanded market.

"Perishable foods, whether meats, poultry, seafoods, vegetables, or fruits, begin to deteriorate the moment they are harvested; and the speed of deterioration is doubled or halved with each 18° F. rise or fall in the temperature at which the products are held during distribution. Therefore all perishables, unless they are to be quickly consumed at the point of production, must be refrigerated; and this refrigeration must be continued up to the moment the foods are popped into the saucepan or oven.

"Today the necessary refrigeration is furnished to these perishables almost entirely by water ice, most of which is artifically produced by electrical energy. The use of refrigeration for this purpose is being rapidly increased, and I believe that if fresh perishables are to compete successfully with quick freezing and other methods of distribution, the use of both artificial ice and mechanical refrigeration in that field will be greatly expanded.

'Roadside Stand' Days Over

"Perishable foods will not much longer be retailed from roadside and sidewalk stands and retail stores where they are exposed to the sunlight, heat, dust, evaporation, and other deteriorative forces which so quickly lessen their nutritive value and impair ther attractive appearance. The retail food store of the future will be refrigerated from front to back and from top to bottom," he predicted.

"Substantially all perishable foods, except those which have been canned or dehydrated, will be sold from refrigerated cabinets—and those cabinets will be operated by electric motors. Moreover, unless I miss my guess, retail food stores, like other merchandising establishments, will be thoroughly air conditioned.

"Institutions, which in food-industry parlance means public eating places ranging from dog wagons to luxurious hotels and immense insane asylums, are making increasing use of the economies inherent in quick freezing and low-temperature storage. The time is rapidly approaching when every institutional consumer of perishable foods will have its own electrically operated low-temperature cabinets and cool-storage space. Those large institutions which operate their own farms will quick-freeze their surplus perishables instead of canning them.

"Farm refrigeration is going to be a principal load-building factor in rural districts," stated Mr. Birdseye. Quick-freezing may be expected to supersede canning on farms; and every prosperous farmer will have his own refrigerating equipment to provide cool storage for milk, eggs, cream, and other perishables, and sub-zero facilities for holding his frozen foods. I do not believe that farm refrigeration will supersede locker plants.

"The time is not far distant when almost every American home will have its own mechanical refrigeration, and plans for revolutionizing this equipment in the postwar period are already well advanced. The trend will be toward larger units containing more low-temperature storage space and toward separate low-temperature cabinets."

FREON SHELL and TUBE CONDENSERS

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WITHOUT BREAKING WATER CONNECTIONS

● The efficient operation of Acme shell and tube condensers for Freon and methyl chloride has long been recognized throughout the industry. Shells of seamless steel tubing eliminate possibility of leaks that could occur in welded shells. "All-in-one" finned tubing, one piece of metal, assures maximum heat transfer efficiency. Removable heads make them cleanable. Tubes are replaceable. STANDARD model capacities up to 120 tons—SENIOR models up to 460 tons.

On SENIOR models the heads are "through bolted" to the tube sheets and are cleanable without breaking water connections. Write for complete information—Catalog No. 23.

● Acme shell and coil condensers supply excellent service where available water condition is satisfactory for their application. Shells of seamless steel tubing closed and sealed on both ends. Copper condenser coil. Sizes up to 8 tons. Write for Catalog No. 24.

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Evaporative Condensers	Forced Convection Units
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Freon Condensers	Heat Interchangers
Dry-Ex Water Coolers	Oil Separators
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Hi-Peak Water Coolers	Heat Exchangers

Write for Catalog on any item.

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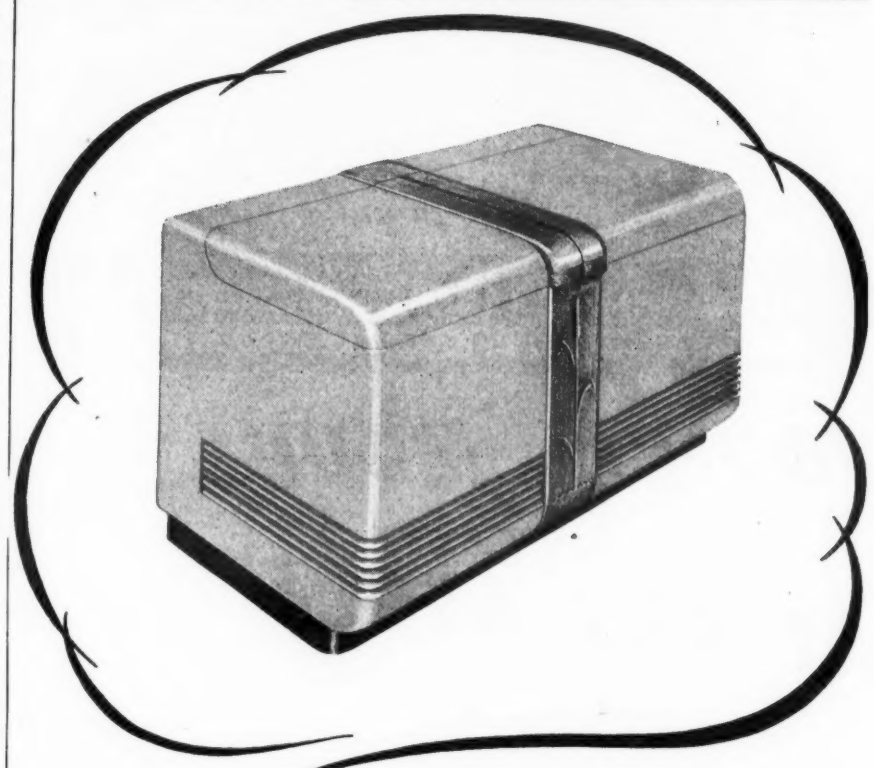
JACKSON, MICHIGAN



In the "Post-War Plans" of many Farm Families--

The BEN-HUR Farm Locker Plant

Talk to any farmer about a farm locker plant and his first comment will be, "wish we had it now." And he'll follow with the promise that food freezing and frozen storage is the FIRST thing he's going to add after the war.

For most farmers already know the benefits of owning a BEN-HUR FARM LOCKER PLANT . . . the advantages of freezing and storing farm-grown vegetables, meat, poultry for delicious meal variety weeks and months later . . . the economy and savings in food costs . . . the satisfaction of preserving the finest of their own produce . . . the time saved in avoiding shopping trips to town.

This is evidence of your future market for new BEN-HUR FARM LOCKER PLANTS—a volume market ready just as soon as they can be produced.

Let us put your name on the list to receive complete data and sales information on BEN-HUR FARM LOCKER PLANTS, when this data can be released.

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ARMY-NAVY "E" Awarded Ben-Hur for outstanding achievement in War Production.

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ANSUL ICE-X

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ICE-X quickly cures emergency freeze ups when ice forms at the expansion valve or capillary tube. Harmless to use. Great for Freon, Carrene, or Methyl Chloride systems ...The dependable liquid anti-freeze.

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JOBBERS: WRITE FOR SPECIAL PROPOSITION!

Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Compressor Shaft Seals (Part 1)

The "electric" refrigerating machine in use today in homes and small commercial applications evolved from the larger apparatus used in ice plants and cold storage. The designers of the early household compressors drew heavily on the accumulated experience of the older manufacturers of the large equipment, but very early it was found that designs, refrigerants, and practices that were excellent for large, heavy equipment that received constant attention from an operating engineer, were quite unsuitable for small units that must operate in the home with very little attention from the user other than perhaps occasionally oiling the motor and defrosting the evaporator.

The open-crankcase compressor, both the horizontal and the vertical types, were quite unsuitable, for it was necessary to frequently oil the main and connecting rod bearings, the piston pins, crossheads and guides, and other exposed parts.

The enclosed crankcase vertical type lent itself best to automatic refrigeration, for the above-named parts could be splash lubricated from a reservoir of oil in the crankcase, this oil supply being enough to last for several years.

The refrigerant enters the cylinder under some pressure and as it is compressed and its pressure raised, there is some leakage past the piston rings and into the crankcase. In fact, in many of the earlier compressors, the suction gas was brought directly into the crankcase from which it passed into the cylinders through suction valves in the heads of the pistons. Then the problem was to prevent gas leakage from the crankcase at the point where the crankshaft passed through.

Regardless of how well the main bearing and the shaft were fitted, some gaseous refrigerant under pressure above atmospheric could leak out or, if the crankcase pressure were below atmospheric (on a vacuum), air could leak into the crankcase.

TO KEEP AIR AND MOISTURE OUT AND REFRIGERANT IN

Nearly all of the earlier, small compressors used sulphur-dioxide as the refrigerant. Suction pressure for SO_2 in household refrigerators, ice-cream cabinets, and commercial systems ran into a vacuum either all or part of the running cycle, so that it was as much a matter of the seal keeping the air out of the system as of preventing leakage of refrigerant through the seal.

With sulphur dioxide inside the system, it was particularly necessary to prevent the entrance of moisture laden air, for the moisture combined with the SO_2 to form SO_3 (sulphurous acid) which is quite destructive to the finely machined surfaces in the compressor and expansion or float valves.

The corrosive action of the sulphurous acid causes pistons to stick and "freeze" in cylinders, shafts to stick in rods and main bearings, needles to leak and stick on seats, and even causes virtual destruction of the mechanical parts of the system.

The most common early method of sealing around the shaft was an adaptation of the method used in the large machines, namely the so-called stuffing box shown in Fig. 1, which consists of packing rings around the shaft just outside the main bearing.

These packing rings are held tightly against the shaft by a gland nut which is either threaded into the crankcase so that by tightening it the pressure of the packing rings on the shaft could be increased, or as in some early designs, the pressure of the gland nut on the packing and consequently the pressure of the packing on the shaft were maintained more nearly constant by means of a strong spring.

Regardless of the individual design, the stuffing box was unsatisfactory for the small automatic compressor for it required periodic attention, taking-up on the gland nut, putting in new packing or adding or changing the oil that was necessary to cool the stuffing box and retard wear of both packing and shaft.

REQUIREMENTS OF A SEAL

It was desirable to find, instead of the packing type of stuffing-box some similar type of device that

(1) of course, would not leak whether the compressor was running or idle, nor whether the pressure in the crankcase was high or on a deep vacuum;

(2) would last much longer, preferably several years;

(3) would not cause wear on the shaft;

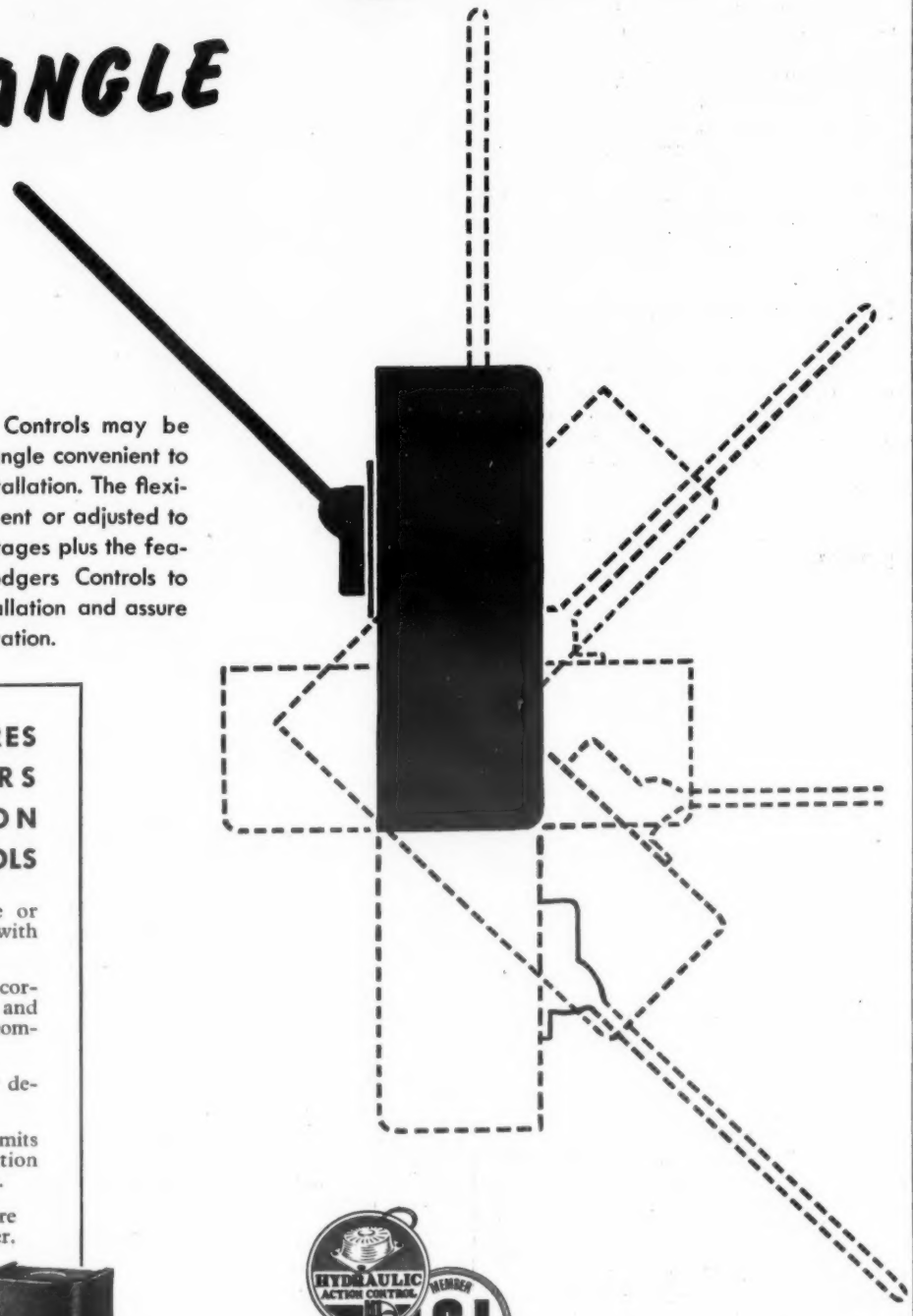
(4) could be easily replaced in the field;

(5) would cause less friction, i.e. would not consume as much current simply to overcome the friction between the rubbing parts;

(6) would be self-lubricating or automatically lubricated from the oil in the compressor crankcase.

(Continued on Page 27, Column 1)

YOU CAN MOUNT WR CONTROLS AT ANY ANGLE



White-Rodgers Hydraulic-Action Controls may be mounted in any position or at any angle convenient to the design of your equipment or installation. The flexible element and capillary may be bent or adjusted to fit the controlled area. These advantages plus the features listed below enable White-Rodgers Controls to become an integral part of any installation and assure years of accurate, trouble-free operation.

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1. May be mounted at any angle or position, above, below or on level with control point.
2. Hydraulic-Action Principle incorporating solid-liquid filled bulb and capillary provides expansion force comparable to that of a metal bar.
3. Diaphragm motion uniform per degree of temperature change.
4. Power of solid-liquid charge permits unusually sturdy switch construction resulting in positive contact closure.
5. Heavier, longer-wearing parts are possible because of unlimited power.
6. Dials are evenly and accurately calibrated over their entire range because of straight-line expansion.
7. Controls with remote bulb and capillary are not sensitive to change in room temperature. Accuracy of control is not affected by temperature changes in surrounding area.
8. Not affected by atmospheric pressure. Works accurately at sea level or in the stratosphere without compensation or adjustment.

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Controls for Refrigeration • Heating • Air-Conditioning

Replacing a DFN Cartrigde is 50% FASTER Than a Refill Job

Every time you handle a dehydrator refill job, it costs you twice the time and labor to get PARTIAL protection . . . as compared with the simplicity and efficiency of the DFN System.

Replacing a DFN cartridge requires only half the time needed to disassemble, clean, refill, and reassemble a conventional bulk refill drier. Hermetically sealed, ready-to-use, quickly installed, DFN cartridges assure thoroughly reactivated, uniformly-packed drying agents. No loss of dehydrating strength through adsorption of moisture from the air; no chance of loosely-packed dehydrant permitting by-passing of refrigerant.

The DFN System is the only system that provides FULL protection against moisture, sediment and acid. It dehydrates and neutralizes, strains and filters. An exclusive anti-sediment assembly holds more sediment without pressure drop, filters the finest particles.

Ask your distributor about the DFN System — or write us direct.

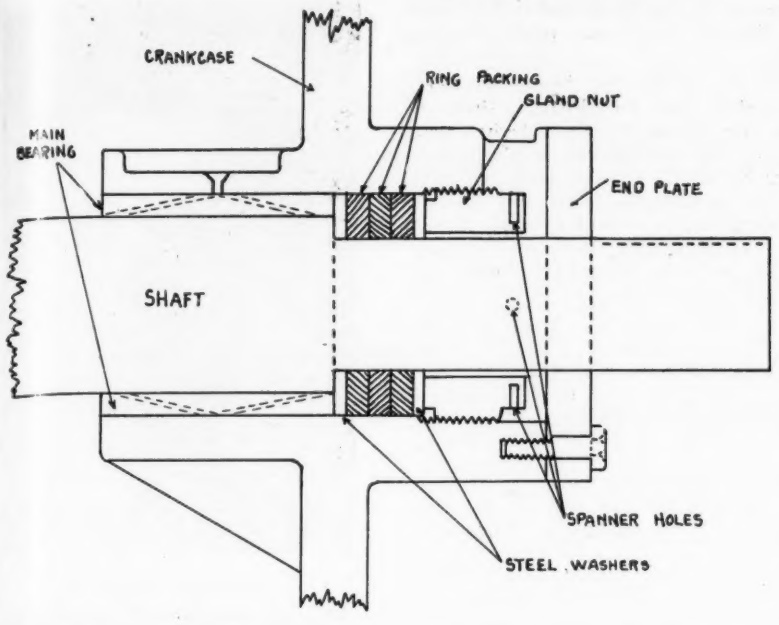
McINTIRE CONNECTOR COMPANY, NEWARK 5, NEW JERSEY

Only the DFN SYSTEM

DEHYDRATES • FILTERS • NEUTRALIZES

DEHYDRATORS • STRAINERS FILTERS • NEUTRALIZERS

Fig. 1—The Stuffing Box



Compressor Shaft Seal Developments

(Continued from Page 26, Column 5)

The answer to these requirements has been a mechanical "seal" that uses no packing, but depends for its tightness on the near-perfect fit of two surfaces, one of which is stationary and sealed to the crankcase (by a gasket or otherwise), while the other surface is movable and secured to the rotating shaft.

It is not overstating the importance of the "crankshaft seal" to say that, without it, the development of the household or small commercial electric refrigerating units as we know them today would have been virtually impossible; at least their rapid development and the vast expansion of their use would have been greatly retarded.

Freedom from the need for frequent attention by the user or repair by the service man has been one of the greatest factors in the growth of the industry and a factor without which the other advantages would have been much less effective in promoting the popularity and widespread use of mechanical automatic refrigeration.

Attempts to eliminate the packing type stuffing box took many interesting forms, one of which, known as a labyrinth seal is shown in Fig. 2.

The movable parts consisted of three brass collars that were clamped to a spool which was itself secured to the compressor shaft and gasketed to the shoulder of the shaft, so that the spool and collars turned with the shaft.

The stationary parts consisted of six disc shaped seal rings of thin steel, the inner portion of which bore directly on the brass collars; two seal rings to each collar.

Between each two seal rings was a third ring shaped spacer disc to separate the seal rings and prevent them from clamping too tightly and rubbing too hard on the brass rings.

Since there were three brass collars, there were three sets of discs and between each of these sets was a thick iron spacer ring. All of these collars, rings, and spacers were clamped together and gasketed to the crankcase by a clamping ring.

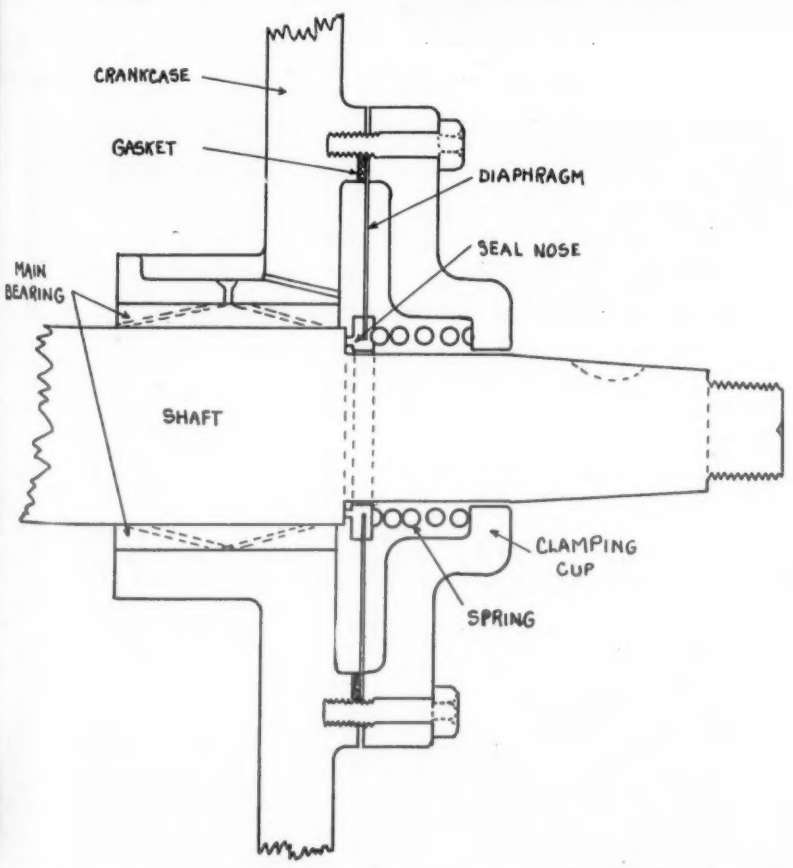
Entire inside of the assembly was filled with a heavy graphite grease that provided the lubrication and the seal between the sealing surfaces. There were, in all, six sealing surfaces where the brass rings ran on the steel rings.

To make these surfaces gas tight, they were lapped together with ground glass and oil which was later washed off.

This seal was moderately successful when used with methyl chloride, its average life being about a couple of years. It would not stand heavy crankcase pressures as the seal rings and spacer discs would bow out and the grease would be forced out.

(To Be Continued)

Fig. 2—The Labyrinth Seal



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WILL AGAIN PRODUCE COMMERCIAL REFRIGERATOR EQUIPMENT FOR CIVILIAN USE
NOW SOME SELF-CONTAINED REACH-IN REFRIGERATORS ARE AVAILABLE FOR THOSE WHO CAN QUALIFY . . . . . .
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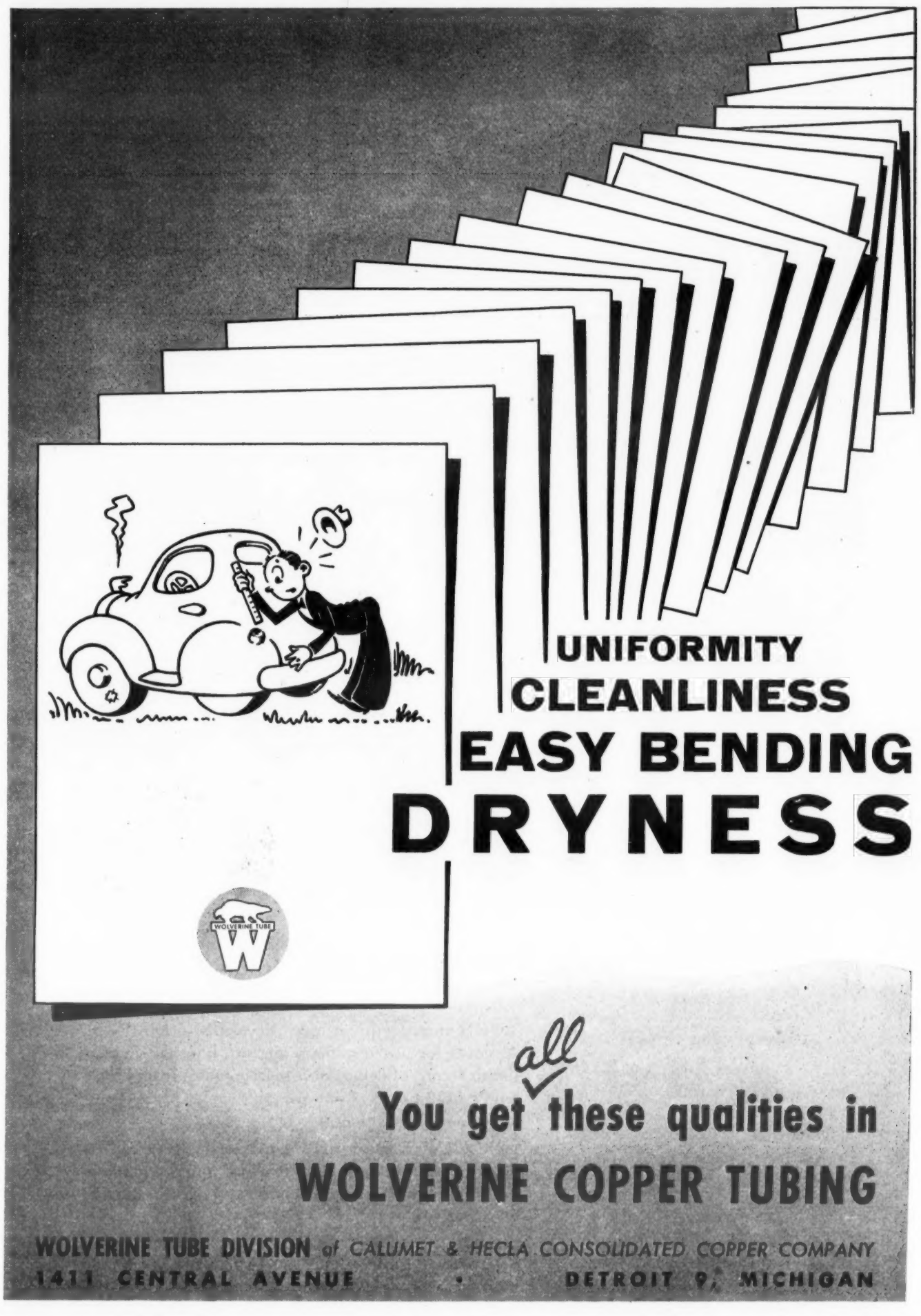

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Refrigerants FOR TOMORROW'S REFRIGERATORS

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AVAILABLE IMMEDIATELY!

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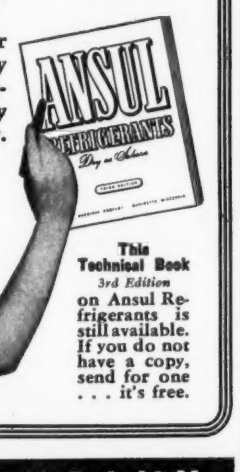
Ansul Liquid Sulfur Dioxide is an ideal refrigerant for household refrigerators, with a long and impressive record of trouble-free performance.

Ansul Liquid Methyl Chloride is recommended for small commercial units. Its performance record is equally excellent. Backed by pioneers in the field, Ansul refrigerants are clean, dry and pure. Ansul service is friendly and deliveries are dependable. Phone, wire or write today.



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This Technical Book 3rd Edition on Ansul Refrigerants is still available. If you do not have a copy, send for one . . . it's free.

ANSUL CHEMICAL COMPANY
Marinette, Wisconsin
Agents for Kinetic's "Freon-12" and "Freon-22"

Frigidaire Rehiring Plan Gives Vets Considerable Leeway

DAYTON, Ohio—Under the veterans' re-empoyment plan recently instituted by Frigidaire Division, General Motors Corp., veterans are given 60 days instead of the 40 specified by the government to apply for re-employment after they have been discharged from the services, according to Carl A. Copp, Frigidaire manager of industrial relations.

At the present time a total of 312 discharged veterans of the present war formerly employed by Frigidaire are back at work in the divisions for Dayton plants under the re-employment program.

The plan was the product of the Frigidaire Educational Department, and includes features not found in many other veteran's programs. It has already been put into effect in carrying out the provisions of the re-employment section of the Selective Service Act, although it goes further than the act designates.

Under this act, a former employe who is honorably discharged from the armed services is entitled to his old job back if it was not a "temporary" job; if the job is still operating; if the veteran wants his old job; if he is able to perform the duties of the job; and if he applies for re-employment within 40 days after being discharged from the armed services.

Under its re-employment program, Frigidaire allows the returned veteran 60 days from date of discharge to apply for re-employment. This gives the veteran ample time to get adjusted to civilian life, visit with his friends, and make plans for his future.

Other features of the Frigidaire re-employment plan provide that all jobs be analyzed by department supervisors to determine the minimum physical requirements, and that all job applicants, civilians as well as veterans, receive thorough physical examinations by the company medical department to determine their physical ability.

American Central Sees 20,000 Selling Line

CONNERSVILLE, Ind. — Distribution line-up for the sale of packaged kitchen "work centers" produced by the American Central Mfg. Corp. calls for enfranchising some 75 distributors and nearly 20,000 dealers, officials of the company report.

Specially designed cabinets based on the three major work centers of a kitchen—the sink, the range, and the refrigerator—have been developed by the firm after considerable research, it is said, and will be offered as packaged merchandise.

These "packages" include a refrigerator package, sink package, and gas range package. The packages will be sold individually or as a complete group, according to present plans.

Just how long it will take American Central to get into production after receiving the reconversion "go-ahead" can't be estimated, say officials of the firm, but they do state that they "will not tolerate any more delay in getting back into civilian production than was permitted in going from peace-time to war-time production."

It was just 41 days from drawing board to delivery of the first of the jeep bodies which the firm has been producing, said company officials.

Named Sales Manager

LYONEL BERKEN

Recently named northeastern sales manager for Controldtemp Equipment Sales Co. of New York City.

WPB and Distributors Study Ending Controls

WASHINGTON, D. C.—Future relaxation of distribution controls was the principal topic discussed at a recent meeting of the Electrical Wholesale Distributors Industry Advisory Committee.

The majority of items handled by electrical wholesalers are controlled by limitation orders, which require extension of a preference rating to the producer, WPB pointed out. While it is expected that most of these orders can be substantially relaxed or even eliminated, after "Victory-in-Europe" Day, WPB officials said no definite statement can be made as yet.

The immediate question before the committee was whether electrical items not controlled by limitation orders can be equitably distributed without the aid of ratings assigned on Form WPB-547. Industry representatives said they would like to study the matter and make individual recommendations to WPB by letter. General committee opinion was, however, that a number of items no longer need a distribution priority.

It was the committee's view that preference ratings on Form WPB-547 could be discontinued when the requirements of the armed forces reached a point that would leave 25% of production available for civilian business.

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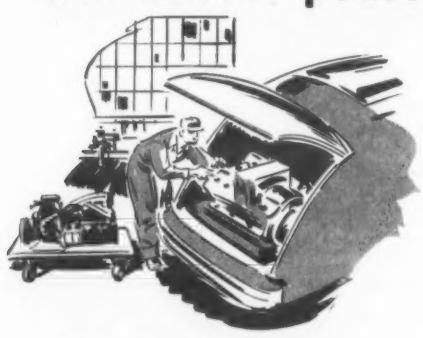

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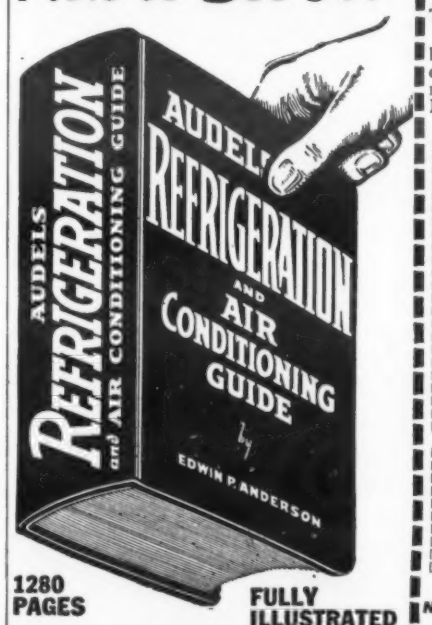

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See 1¼ Million Household Units In First Year

(Concluded from Page 1, Column 5)

interference with current war production, committee members emphasized.

They estimated that production in the first year following reconversion might total 1,205,000 refrigerators if materials and components cannot be ordered and stocked in advance, but that this total could be increased by 40% if advance ordering is permitted. This estimate is based on the assumption of an average cutback of war contracts in the industry of 40% on "Victory-in-Europe" Day.

PLAN MORE FACILITIES FOR SMALL MOTORS

A $5,000,000 program for the expansion of facilities for the production of alternating current fractional horsepower motors in non-critical labor areas is under way and is expected to be completed by the end of the first quarter of 1945, WPB representatives reported. The resulting increased production will ease the present critical supply situation and permit gradual reduction of the accumulated backlog of unfilled orders for 4,800,000 a.c. motors.

WPB representatives said that production is expected to average about 450,000 a.c. motors a month in the fourth quarter of 1944, as compared with 400,000 a month in the second quarter. A similar increase is expected for the first quarter of 1945, as additional facilities are brought into operation. Substantial increases will be effected in the latter part of 1945.

HOW MATERIALS SUPPLY AFFECTS REFRIGERATORS

The materials supply situation as it affects refrigerator manufacturers was outlined by WPB representatives as follows:

Owing to increased requirements for castings in connection with the military truck program, the biggest bottleneck in refrigerator production will be castings. Foundries have a five months' backlog of high-rated orders for malleable iron castings. The gray iron casting situation is only slightly less critical.

Cork gasket production is impeded by the manpower shortage. Deliveries of orders with an AA-1 rating are being made about six or eight weeks after placement. After the defeat of Germany, deliveries in 90 days may be possible.

The supply of "Freon" in the first quarter of 1945 is expected to be sufficient for all essential uses.

Hardware production is dependent upon the freeing of facilities as a result of cutbacks in military orders.

CHEMICALS FOR PLATING WILL REMAIN CRITICAL

Nickel anodes and chemicals for plating, such as chrome acid, are critical, and no relief for civilian production after "V-E" Day is expected.

Present production of titanium dioxide is sufficient to meet military and essential civilian requirements.

The zinc supply is adequate for military and essential civilian requirements, but the manpower shortage may limit domestic mine and smelter output in the near future.

Tin will remain critical until the tin mines of the Malay Peninsula are again available to the Allies.

Aluminum is readily available.

Some mill capacity will be available for the production of 16, 18, and 20-gauge cold-rolled sheet steel toward the end of the first quarter of 1945. More open capacity will be available in the second quarter of next year. The ingot iron cold rolled sheet steel situation is not expected to ease prior to "V-E" Day.

The manpower shortage limits stainless steel production. Nickel-chrome stainless steel is expected to remain critical even after the defeat of Germany, but straight chrome stainless steel may then be more readily available.

Though the supply of refined copper has improved, that of copper in certain shapes, such as alloy tube in large sizes, is critical. Wire mill products of the type needed for the military communications program are critical, but types needed for refrigerator production are not.

Plywood is needed in quantity for special military orders, but "V-E" Day cutbacks may result in its availability for crating civilian products.

A representative of the readjustment division of the Army Service Forces and a representative of the industrial readjustment branch of the Navy outlined to the committee current Army and Navy procedures and policities for contract termination.

Quigley Gets New Frigidaire Post

C. E. QUIGLEY

* * *

DAYTON — Clarence E. Quigley has been appointed to handle special assignments in the appliance sales department of Frigidaire.

An employe of General Motors Corp. since 1920, Mr. Quigley entered the services of the Frigidaire division in 1926. He was first employed in the educational department and moved from there to sales division in 1927.

During his 17 years with Frigidaire he has occupied many important sales posts having been regional manager, water cooling manager, assistant manager commercial sales, and others.

Before being transferred to his present assignment he was for the past two and one half years connected with various Frigidaire war production activities.

Two Companies May Go To Court Over Matter of Right To Use 'Bendix' Name on Appliances

(Concluded from Page 1, Column 3)

the home appliance field, alleges the complaint. It is further charged that Bendix Aviation later sold out its interest in Bendix Home Appliances, and the home appliance company, relying upon the consent, and with the knowledge, of the aviation company, has spent large sums of money in expanding its facilities and in advertising its products under the name "Bendix."

Mr. Sayre reports that the complaint also charges that Bendix Aviation has now objected to the manner of the use of the name "Bendix" by the home appliance concern and has threatened to sue it for trade mark infringement and unfair competition, but has failed to do so. The suit asks that the respective rights of the two companies be judicially decided.

A counter-claim will be filed by Bendix Aviation Corp. "in order to enjoin the home appliance company from misusing the Bendix name," declared Ernest R. Breech, president of the aviation company.

He stated that in June, 1943, the aviation company had written to Bendix Home Appliances objecting to the way that firm was using the name "Bendix" in advertising and suggesting that court action be instituted to settle the question, but that Bendix Home Appliances refused to accept service of the proposed suit.

Bendix Home Appliances, Inc., was organized by independent interests in 1936, and a subsidiary of Bendix Aviation exchanged certain washing machine patents and patent rights for stock in the appliance company, said Mr. Breech. Bendix Aviation sold its stock in Bendix Home Appliances in 1940, he added.

Kelvinator Freezer Price Range Is Indicated As Under Household Units

(Concluded from Page 1, Column 4)

pears now that this development will be substantial. Certainly the public imagination has been captured to an extraordinary degree by the possibilities in frozen food storage in the home.

"As a number of authorities have stated, we may indeed be facing a new era of food distribution after the war, and it is gratifying to note the great part the refrigeration industry, with its tremendous contributions in this direction during the past 20 or 30 years, is playing in these predictions," Mr. Lawson said.

However great the home freezer demand may be, Mr. Lawson expressed the belief that the industry has ample capacity to meet it, along with anticipated heavy demand for household and commercial refrigeration units.

Par District Head

D. E. STENSON

Now manages sales in the eastern district for Par Division, Lynch Mfg. Co.

McEwan Transferred By American Central

CONNERSVILLE, Ind.—A. J. McEwan, currently employed in the engineering department of the American Central Mfg. Corp., Connersville, has been transferred to the sales department of the American Kitchen line, C. Fred Hastings, general sales manager, has announced. Mr. McEwan will act as district manager for Metropolitan New York.

Attract and hold customers by using G-E FACTORY SERVICE PLANS For fractional-hp motors

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3. REGULAR REPAIR PLAN Covers f-hp motors not included in either of the other two plans, except extremely old or obsolete models. Inspection is made at the factory, and a cost estimate is submitted before work is started. These motors also carry the G-E new-motor warranty, except for finish. This plan rounds out this G-E service and enables you to handle repairs on practically any G-E fractional-horsepower motor.

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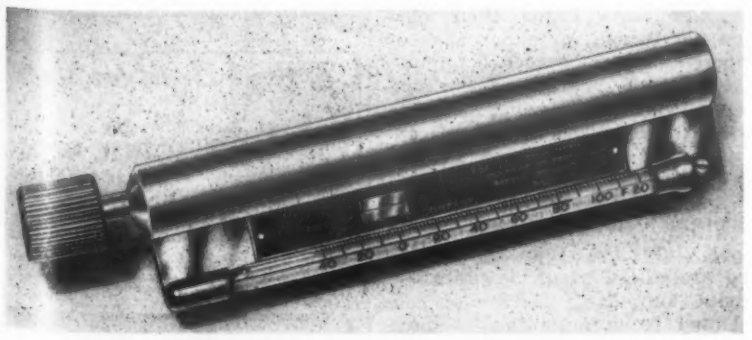

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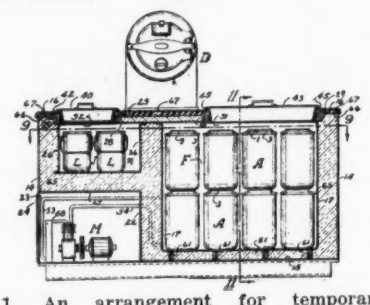
PATENTS

Weeks of Oct. 31 & Nov. 7

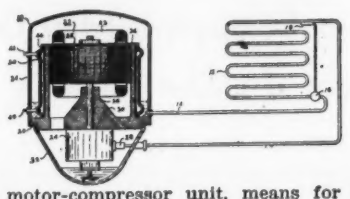
2,361,649. FREEZING, HARDENING, AND DISPENSING CABINET AND CONTAINER THEREFOR. Louis A. M. Phelan, Rockton, Ill. Application July 27, 1940, Serial No. 347,830. 7 Claims. (Cl. 62—99.)



1. An arrangement for temporary storage for frozen confections; comprising a cabinet enclosing a compartment having arranged therein a number of containers for the confections, said compartment having a uniform rectangular cross-section from top to bottom and having access openings at the top of the cabinet, a cooling coil arranged in heat exchange relation with the lower portions only of at least the side walls of the compartment, the containers being arranged in the compartment in sets, one set overlying and resting upon the tops of an underlying set, each container being substantially uniform in rectangular cross-section, the end walls thereof being spaced further apart than the side walls of the container, each of said containers being positioned in the compartment with its side walls parallel to the end walls of the compartment.

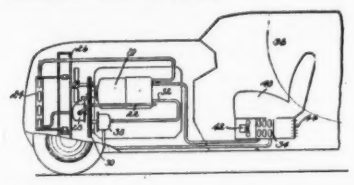
2,361,854. REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Dec. 27, 1940, Serial No. 371,941. 8 Claims. (Cl. 62—115.)

1. In combination, an evaporator, refrigerant liquefying means for supplying liquid refrigerant to said evaporator, said refrigerant liquefying means comprising



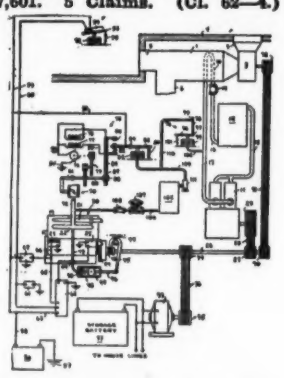
a motor-compressor unit, means for circulating a cooling medium in thermal exchange relationship with said unit, porous sintered metal means in contact with said last named means, and means for directing compressed refrigerant vapor in contact with said porous sintered metal so as to cool and condense said vapor prior to return to said evaporator.

2,361,855. REFRIGERATING APPARATUS. Alex A. McCormack, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application May 28, 1941, Serial No. 395,647. 17 Claims. (Cl. 62—115.)



1. Air conditioning apparatus comprising in combination; a casing; a compressor within said casing having an inlet port and an outlet port; a compressor operating shaft having one end projecting through one wall of said casing; means carried by said projecting end of said shaft for rotating said shaft; means forming a shaft seal cavity adjacent said shaft; shaft seal means within said cavity cooperating with said casing and said shaft for preventing the escape of lubricant along said shaft; a porous sintered metal oil separating element adjacent the outlet of said compressor; means cooperating with said porous element for collecting the lubricant separated out thereby; means for supplying lubricant from said lubricant collecting means to said shaft seal cavity; means providing a passage between said shaft seal cavity and the inlet to said compressor, a wall member within said casing through which the other end of said compressor operating shaft projects; means cooperating with said wall member forming an evaporator chamber adjacent said other end of said shaft; means for condensing the refrigerant compressed by said compressor; means for supplying condensed refrigerant at a reduced pressure to said evaporator chamber; and means for circulating an air cooling medium in thermal exchange with the refrigerant in said evaporator chamber and in thermal exchange with air to be conditioned.

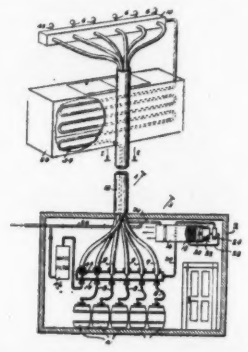
2,362,084. AIR CONDITIONING SYSTEM. Leo B. Miller, Milwaukee, Wis., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Original application July 16, 1937, Serial No. 154,023, now Patent No. 2,284,914, dated June 2, 1942. Divided and this application Nov. 3, 1941, Serial No. 417,601. 5 Claims. (Cl. 62—4.)



1. In an air conditioning system, in combination, a heat exchange device, means for passing air into heat exchange relationship with said device for a conditioning action, means for causing a flow of heat exchange medium through said device comprising a compressor, an internal combustion engine for driving said compressor, said engine having an intake manifold, a variable speed controller for said internal combustion engine, a fluid actuated device for causing movement of said variable speed controller, means for supplying actuating fluid to said fluid actuated device, said last mentioned means including a fluid flow controlling device responsive to a load condition on the system for controlling the supply of actuating fluid to said fluid actuating device, and a connection to the intake manifold of the engine for inducing flow of said actuating fluid.

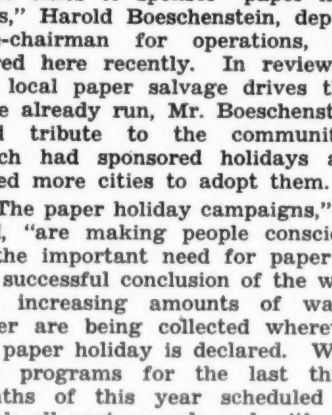
2,362,104. BEVERAGE DISPENSING APPARATUS. Leonard C. Smith, New York, N. Y. Application May 13, 1942, Serial No. 442,743. 2 Claims. (Cl. 225—40.)

1. In apparatus for dispensing beverages, the combination of a cooling chamber, containers of cooled beverage therein, a dispensing point or station including a faucet for each container remote from the containers, a beverage tube extending from each of the said containers to the said faucets, a closed cooling conduit system independently surrounding each of



said tubes and faucets, a cooling machine in said chamber, and a pump for circulating water through said cooling machine and conduits, about said faucets and back through the cooling machine.

2,362,320. FREEZING TRAY. Carl H. Steenstrup, Schenectady, N. Y., assignor to General Electric Co., a corporation of New York. Application June 18, 1938, Serial No. 214,475. 9 Claims. (Cl. 62—108.5.)



1. A removable partition assembly for a freezing tray including a plurality of alined longitudinal partition elements and a plurality of transverse partition elements arranged between said longitudinal elements, said longitudinal and transverse elements cooperating to form side walls of a plurality of ice block compartments means for retaining said partition elements in assembled relation and for affording relative bodily movement between said elements, said longitudinal elements being angularly movable with respect to each other in their plane of alinement, means adapted to move said elements with respect to each other for breaking a frozen bond between said partition elements and ice blocks frozen between said compartment walls, and means including lateral projections on each of said longitudinal elements for facilitating the breaking of the frozen bond formed between said blocks in the compartments on either side of each said longitudinal element and the adjacent ones of said transverse members constituting walls of the same compartments.

More 'Paper Holidays' To Conserve Supplies Requested by WPB

WASHINGTON, D. C. — The War Production Board will re-double its efforts in the next few months to get more cities to sponsor "paper holidays," Harold Boeschenstein, deputy vice-chairman for operations, declared here recently. In reviewing the local paper salvage drives that have already run, Mr. Boeschenstein paid tribute to the communities which had sponsored holidays and urged more cities to adopt them.

"The paper holiday campaigns," he said, "are making people conscious of the important need for paper in the successful conclusion of the war, and increasing amounts of waste paper are being collected wherever the paper holiday is declared. With war programs for the last three months of this year scheduled to break all past records and with the scarcity of paper for civilian needs greater than ever, we are redoubling our conservation and salvage efforts."

The paper holiday plan was first tried in Peoria, Ill., four months ago. Local merchants urged their customers not to ask for paper bags or wrappers (except for such commodities as cuts of meat), and the consumers cooperated by using shopping bags or carrying their purchases unwrapped. As a result, paper salvage in Peoria during July shot up 600% over its average for the months prior to the holiday.

Since July the War Production Board and the Periodical Publishers National Committee, which cooperate in helping to arrange the holidays, have got more than 300 other cities to sponsor the plan. The two groups hope by the end of the year to have at least 1,000 communities staging paper holidays, and in that way to reach the paper conservation goal of 1,000,000 tons which the WPB has set for 1944.

From Peoria, the plan spread to Milwaukee and to many communities in Minnesota, Iowa, and the surrounding states, as well as to other sections of the country. The biggest holiday staged to date took place last month in Boston, where some 1,000,000 shoppers carried unwrapped bundles for a week. More than 12,000 Massachusetts grocery stores took part in the drive to save paper bags and other wrapping materials, and the larger department stores in the city also pushed the campaign.

In addition to those mentioned, the following are a few of the cities which have declared paper holidays: Philadelphia, St. Paul, Minneapolis, Duluth, Newark, Pittsburgh, Harrisburg, St. Louis, Johnstown, Pa., Davenport, Iowa, Joliet, Ill., Rock Island, Ill., McKeesport, Pa., Wellesley, Mass., Ashland, Ky., Burlington, Iowa, Clairton, Pa., Moline, Iowa, East Moline, Iowa, and Ottumwa, Iowa.

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WANTED: Executive with production experience and refrigeration engineering training with permanent position in well established manufacturing company. Please state full particulars, experience, and references. Confidential. Box 1626, Air Conditioning & Refrigeration News.

WANTED: Manager for our Commercial Refrigeration and Hotel Supply Department. Must be able to make sales direct to merchants as well as train new salesmen. Must be experienced and capable of earning over $5,000 yearly. KUHR BROTHERS, Savannah, Georgia.

REFRIGERATION ENGINEER with design experience on small control units. Pleasing personality. Capable of discussing control problems with customers and carrying through on design to meet their requirements. Box 1646, Air Conditioning & Refrigeration News.

GENERAL ELECTRIC commercial refrigeration distributor, near New York City has need for service manager and service repair men. Excellent opportunity for experienced men. Positions permanent. State experience and salary desired. Box 1647, Air Conditioning & Refrigeration News.

WANTED: Manager for Refrigeration Service Department. Must be experienced and capable of earning over $5,000 yearly. KUHR BROTHERS, Savannah, Georgia.

CHIEF ENGINEER: Permanent position for experienced refrigeration engineer. Includes all phases of refrigeration application. Must be qualified to assume full responsibility of this interesting and important department. We are manufacturers of display and storage refrigerators; also, freezers and beverage coolers. State qualifications and salary expected. SHERER-GILLETT COMPANY, Marshall, Michigan.

POSITIONS WANTED

SALES ADMINISTRATOR, exprienced in commercial industrial refrigeration, air conditioning applications desires contacting successful service organization, preferably midwestern. Interested in organizing postwar sales organization. Willing to make investment or on profit sharing basis. Business and personal references available on request. Replies kept in strict confidence. Box 1643, Air Conditioning & Refrigeration News.

SALES ENGINEER seeking position with progressive manufacturer or distributor of refrigeration equipment or accessories. Midwest territory preferred. Age forty-one. In refrigeration since 1926 with commercial, industrial air conditioning experience. Now engaged in sales administrative capacity with old concern. Successful record, references available. Replies confidential. Box 1642, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE. Commercial refrigeration application engineer, nine years with one company. Experience as commercial manager, contacting dealers and distributors and direct selling. Would travel out of New York office and represent manufacturer exclusively or sideline. Can finance self and carry stock if necessary. Box 1641, Air Conditioning & Refrigeration News.

EXECUTIVE ENGINEER, 43, ten years production, ten years refrigeration and air conditioning experience, at present connected with firm of consulting engineers, desires connection with medium size, progressive manufacturing concern as chief engineer to take full charge of product design, development, and production. Small investment considered. Box 1632, Air Conditioning & Refrigeration News.

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NEW ORLEANS, Louisiana. Old established refrigeration firm wants distributorship for walk-in coolers, display cases, milk coolers, and other suitable items. Reply to Box 1648, Air Conditioning & Refrigeration News.

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250 FRIGIDAIRE model "N," "W350," "W233," and "C." All with 110-220 V. 60 cycle. REP. IND. Motors. Remanufactured ice cream cabinets. Send for list and price. EDISON COOLING CORP., 310 E. 149 St., New York 51, N. Y.

OFFERING for immediate delivery: Ice making coils, 4 to 16 tray size; commercial blowing coils; Reach-in refrigerators, 20 and 30 cu. ft.; electric water coolers; condensing units. Specifications on request. Priorities required. MANN, 595 Sixth Ave., New York 11, N. Y.

ELECTRIC WATER coolers. Industrial and cafeteria models, blower coils and milk coolers. Immediate delivery. All new guaranteed equipment of standard make. Prices right. Write or wire today. RAMSEY-BENNETT CO., 727 Bolivar Road, Cleveland 15, Ohio.

BUILDING SOLD. Forced to liquidate entire stock of new and used equipment. Unable to obtain help to move tremendous stock. Compressors, receivers, condensers, pulleys, fittings, 100 Frigidaire "N" units, Kelvinator units, others. New Fedder heat interchangers, floats, evaporators, air cooled condensers. DENNETT, 311 Canal St., New York City.

ICE REFRIGERATED bottle coolers. Three-case capacity. Streamlined. All steel, heavily insulated. Casters. Also, for cooling fish, storing cracked ice, etc. Suitable for homes. $19.00 net, F.O.B. Philadelphia. New. No Priority. Streamlined. 100 bottle capacity size, $36.50 net. Convertible for mechanical operation. GENERAL REFRIGERATOR COMPANY, 5400 Eadom Street, Philadelphia 37, Pa.

REACH-INS: Porcelain self-contained and remote, all sizes. Complete stock of condensing units and diffusers. New 6-can milk coolers equipped with ⅓ H.P. General Electric compressors $260.00. Walk-in all-steel coolers. Immediate shipments. Phone Rittenhouse 6359 or write JORDON REFRIGERATOR CO., 235 No. Broad Street, Philadelphia 7, Pa.

IMMEDIATE DELIVERY: Ice making coils. 4 to 16 tray size; Commercial Blowing Coils; Reach-In Refrigerators, 20 and 30 cu. ft.; Electric water coolers; Condensing units from ⅓ to 1½ h.p. Prices and specifications on request. Priorities required. MANN, 595 Sixth Ave., New York 11, New York.

TRANE HEATING Coil for either steam or hot water. Copper tubes and aluminum fins. Two rows and approximately 350,000 Btu. capacity. Used only a short while. Price $125.00. AIR CONDITIONING PRODUCTS COMPANY, 646 Broadway, Gary, Indiana.

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WANTED: FRICK 9" x 9", 2-cylinder, Dual Suction Compressor with or without 550 volt, 3-phase, 60-cycle Synchronous Motor. Alternative equipment not suitable. State condition, location, and price expected. Write Box 605, Harwich Port, Massachusetts.

WANTED: Ice Maker. 5 Ton capacity. 24 hours. Write age, make, condition, and price. McCARRON REFRIGERATION SALES AND SERVICE, Medford, Wisconsin.

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New Motor Eliminates Starting Winding, Switch, Inventor Tells Detroit A.S.R.E.

DETROIT—A demonstration of an electric motor claimed to be a radical departure from conventional design, and a discussion of general activities of the American Society of Refrigerating Engineers by A. B. Stickney, national president, marked the November meeting of the Detroit A.S.R.E. section held at the Rackham Memorial Bldg. here.

E. P. Oswald, active in the development of motors for hermetic units and now head of Oswald Laboratories, located in a Detroit suburb, discussed a new type electric motor he has invented.

Without divulging any details of his development, Mr. Oswald declared that this new motor has operating characteristics equivalent to that of a split-phase motor with the use of only a single winding. Although no starting winding or starting switch are employed, the "Oswald motor," claims the inventor, has high starting torque plus excellent running efficiency.

"I discovered how to get slow magnetism and fast magnetism," was the only explanation offered by the inventor, who pointed out that he couldn't reveal any secrets because patents are still pending. He demonstrated the new method of winding with a conventional Westinghouse motor he had rewound according to his own design.

Mr. Oswald's claims that his motor was considerably more efficient than present designs was disputed by several A.S.R.E. members present, but it was agreed that if the motor were efficient enough it would prove a boon to appliance manufacturers. Elimination of a separate starting winding, starting switch, and overload protection, which Mr. Oswald declares are unnecessary, would reduce the cost of motors considerably, it was said.

The continuing growth of the A.S.R.E., both in membership and number of sections, was emphasized by the A.S.R.E. president, Mr. Stickney. There are now more than 3,000 members and there will shortly be 20 sections, five more than at the beginning of 1944, said Mr. Stickney.

During the past year new sections have been formed at San Francisco, Minneapolis-St. Paul, northern New Jersey, and New Orleans, and a fifth is now being established at Seattle, Wash., he declared.

Two new activities of the society were described by Mr. Stickney. One was the development of an organized research program through which the A.S.R.E. will grant funds to various universities for the study of refrigeration problems.

Announcement of a new publication, in addition to the society's monthly magazine and data book, which will be known as *Refrigeration Abstracts,* was also made. With the aid of A.S.R.E. members the society plans to abstract articles of refrigeration appearing in all types of publications. The first issue will probably appear next summer.

Tax Boost Slashes Buffalo Forge Profit

BUFFALO—Net profit of Buffalo Forge Co. and subsidiaries for the quarter ended Aug. 31 was $111,722, president Edgar F. Wendt reported. This was after taxes and provision for renegotiation and compared with $319,170 in the same quarter last year.

"Earnings for the second and third quarters were reduced approximately $134,000 each quarter, due to the drastically revised New York State Franchise Tax Law, effective March 31, 1944, requiring absorption of 35 months' franchise tax expense during the current year," Mr. Wendt said. "These high charges will be nonrecurring in subsequent years. The cash position of the company is not affected thereby, as this is simply a bookkeeping entry placing the franchise tax on a pay-as-you-go basis, as required by the revised law."

Proctor Electric Signs For RCA Export Service

PHILADELPHIA—The International Department of RCA Victor Division will distribute household electrical appliances manufactured by Proctor Electric Co. through its distributors and subsidiaries located in 120 countries and territories outside of the United States, according to a joint announcement by both companies.

Both companies have mapped out extensive postwar expansion plans, with RCA Victor preparing for worldwide distribution of non-competitive lines, it was announced by R. M. Oliver, vice president of Proctor, and Jay D. Cook, managing director of RCA Victor's International department.

New Insulation Material Shown at Swedish Fair

STOCKHOLM, Sweden — Manufactured from sheets of cellulose acetate, a very light product called "Isoflex," which is said to be especially suitable for the insulation of cold storage rooms, refrigerating holds of ships, and similar purposes was exhibited at the industrial fair held here this year.

Great interest shown in the Stockholm fair, which was first held in 1943, will probably make it a regular annual event, it is reported. The traditional Swedish fairs are held at Goteborg and Malmo.

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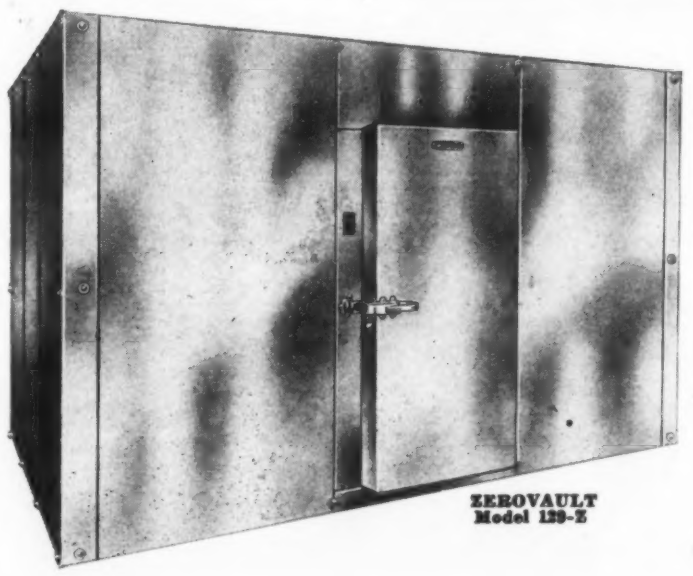
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WILSON CABINET CO. SMYRNA DELAWARE

John Wyllie, Leader And Pioneer In the Industry, Dead at 42

(Concluded from Page 1, Column 4)

Refrigerating Engineers, and as chairman of the Rema-R.S.E.S. Relations Committee at a time when a steady hand and clear vision were badly needed.

But it was after the United States went to war that Mr. Wyllie performed his greatest services for the industry—and for his country. Elected president of Rema in 1942, he did an excellent job of guiding this industry association through a year made turbulent by war conditions.

However, he felt keenly the need for some welding together of all elements in the industry to tackle certain problems that had arisen because of wartime conditions.

He thus took the lead in the formation of the National Refrigeration War Council, first organization of its kind, on which sat representatives of all the major national associations in the industries. He was elected first chairman of the Council.

Now, Mr. Wyllie was not the type who organizes just to be "organizing," or for the purposes of burying a problem, or to get his name into headlines. He believed that the principal purpose of organizing anything was to get a job done that needed doing.

One of the jobs that needed doing was the training of new refrigeration service men to replace those who had left the industry. Although the need was becoming desperate, and food spoilage cases making the headlines, some elements in the War Council were apathetic about taking any direct action to alleviate the condition.

Mr. Wyllie had appointed a committee of contractors and other interested parties from all over the country to tackle the problem, and this group went to Washington where they quickly impressed several important officials with the gravity of the problem.

A Cleveland contractor, W. Ray Kromer, was particularly zealous on the matter and he was named to get together some kind of a national training program for training replacement service men.

The War Council continued to give half-hearted support to the training program, and but for the stubbornness and drive of Mr. Kromer together with Mr. Wyllie's ingrained belief that such a program was right and necessary, it might never have been achieved.

Assuming the chairmanship of the National Refrigeration Service Council (which had little, if any, legal basis for being), Mr. Wyllie named Mr. Kromer as National Training Director for the National Refrigeration Service Manpower Training Program, got new blood into the committee, and talked some other members of the industry into serving as coordinators to assist Mr. Kromer.

More contacts with Washington resulted in assistance on a broad scale from the Training Bureau of the War Manpower Commission, the U. S. Department of Education, Office of Civilian Requirements, and Selective Service. In addition to getting help in training new men, the Service Council was instrumental in getting Selective Service to give preferred treatment to those still left in refrigeration service work and thus helped to maintain skilled workers in the field.

Some funds were provided by the government agencies, but when further money was needed to carry on the program, Mr. Wyllie by a personal appeal to the industry raised more than enough money to carry it to a successful conclusion.

The field welcomed the program with open arms and training programs were set up in nearly 200 communities with some 5,000 trainees enrolled. This program, together with those conducted by some of the larger individual companies, succeeded in just about licking the manpower problem in refrigeration service last summer.

At the same time Mr. Wyllie was turning his own company over almost completely to war work, doing a greater volume than it had ever done before, and was standing regular duty with the Coast Guard Reserve.

Mr. Wyllie's career in refrigeration covered a span of 20 years, and the story of his career was much the story of what the trade knows as "the commercial refrigeration industry."

Having achieved a brilliant scholastic record in engineering at the University of Michigan, he was one of the group of students selected by J. Robert Crouse, head of the Nizer Corp., to train for executive positions with the company, a pioneer builder of electrically refrigerated ice cream cabinets.

The "training course" was pretty much a "teach yourself" affair, and Mr. Wyllie worked on the production line, in the laboratory, and in field service work. He organized one of the first factory service schools, and at one time had 6,000 students taking his course.

He eventually became assistant to the vice president in charge of engineering. In 1928 he became special representative to C. K. Woodbridge, president of Kelvinator Corp., with which Nizer had been merged.

Later he was assistant manager of the Kelvinator commercial sales department, manager of the Kelvinator commercial engineering department, and in 1933 he organized the sales engineering department of Kelvinator, becoming its manager.

In 1934 he left to join Temprite Products, first as sales manager, and then later as general manager. He was regarded as one of the foremost authorities in the country on commercial refrigeration problems in general, and those of beverage cooling in particular.

Massachusetts RSES To Meet Dec. 10

BOSTON—Fourth annual meeting of the Massachusetts State Chapter of Refrigeration Service Engineers Society will be held at the Gardner Hotel here Sunday, Dec. 10, beginning at 10 a. m., announces Charles C. E. Harris, president.

Speakers will include H. T. McDermott, national secretary of the society; Sterling Smith, formerly with the War Production Board and now head of the Mills, Inc., refrigeration division; and Prof. A. L. Hesselschwerdt, who will discuss codes.

Principal item of business facing the meeting is the question of enlarging the chapter. There is a possibility that a new chapter embracing all of New England may be formed, Mr. Harris said.

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